

MICROTEK
ScanWizard **5**

User's Guide
for Macintosh

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To obtain optimal results from the Microtek scanning software and user's manual, you should be familiar with such Windows concepts as pointing, clicking, dragging, and selecting from menus and dialog boxes. If these things are new to you, refer to your Microsoft Windows User's Guide.

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1 Before you Begin

What is ScanWizard 5?

ScanWizard 5 is the scanner driver program for Microtek scanners. This driver program consists of two panels: Standard Control Panel and Advanced Control Panel.

Standard & Advanced Control Panels

Standard Control Panel The Standard Control Panel is best for beginners who need a simple and easy way to scan an image. This panel provides basic tools for adjusting and enhancing your original image to final scan.

Advanced Control Panel The Advanced Panel provides advanced color image enhancement tools tailored for those already familiar with the scanning process.

Switching between two Modes

Depending on the scanner you purchase, either the Standard Control Panel or the Advanced Control Panel will appear when ScanWizard 5 is launched. To switch between modes, click on the Switch button.

Running ScanWizard as a Stand-alone program

When ScanWizard 5 is run as a stand-alone program from your scanner's "Go" push button, you are provided with options to copy the scanned image to your printer or to store it to a file. Under the "scan to file" option, the Standard Control Panel launches your Internet browser application and displays the scanned image in your image-editing application.

The Tutorial Guide

The Tutorial Guide in the Standard Control Panel shows you step-by-step procedures on scanning.

Standard & Advanced Control Panels

Who Should Use the Standard Control Panel?

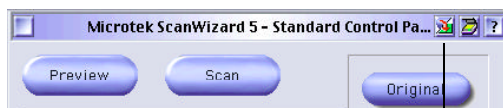
If you are new to the world of image scanning, the ScanWizard 5-Standard Control Panel was designed for you. The SW-Standard Control Panel will give you the power to scan photos or documents without having to learn the art of professional digital imaging. It provides a simple but straightforward control over the look of your preview images before they are scanned. It integrates a “follow-me” tutorial that guides beginners through an actual step-by-step scanning session. This easy-to-follow tutorial is an instant educator for anyone who wants to learn the basics of producing digital image from an original photo or document. And though it is simple to operate, it uses advanced artificial intelligence programming to automate the scanning process.

Who Should Use the Advanced Control Panel?

The ScanWizard 5-Advanced Control Panel provides advanced color image enhancement tools tailored for those already familiar with the scanning process. You can scan originals individually or scan them in multiple batches. The scanned image can be reproduced optimally using the Advanced Image Correction (AIC) tools. The ability to perform correction at scan stage eliminates the need of exporting output image to an image application program for further editing.

Switching between Standard and Advanced Modes

To switch between Standard and Advanced Modes, click on the Switch icon on the Title bar (see right figure). Within a few seconds, the current program exits and switches to the other control panel mode.



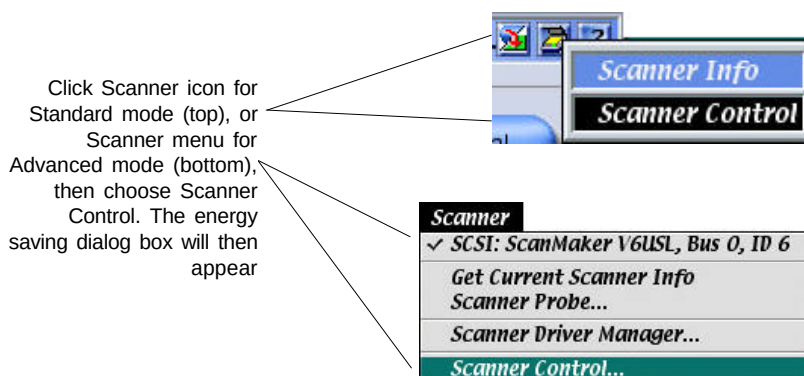
Click this icon to switch control panels between Standard & Advanced modes



Scanner Control

Power-Saving

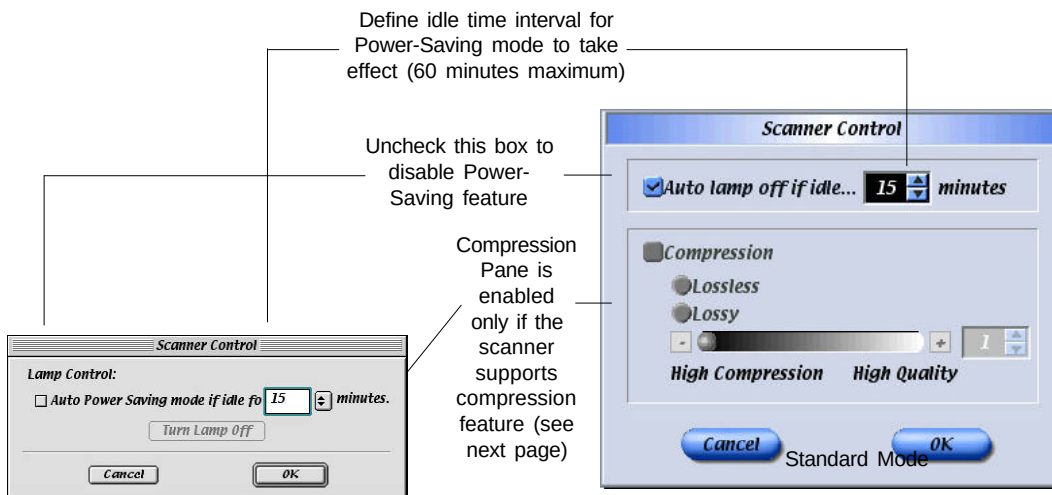
An energy-saving feature is built into recent scanners models, in which the scanning lamp switches to power-saving mode when the scanner remains idle for a defined period of time. The scanner reverts to full power mode as soon as the **Preview**, **Scan**, **Scan to**, **Copy**, or **E-mail** button is executed. Aside from saving power, the feature also helps extend the service life of the lamp and prevents the caking and deformation of your film original resulting from long exposure to lamp heat.



Each scanner model has its own default idle time to induce the scanning lamp into power-saving mode and its own factory set time for warm-up, revert to full power, and start scanning operation. You may define your own idle time or disable the feature altogether by clicking on the Scanner icon from the Title bar in Standard Mode or from the Scanner menu of the Menu bar in Advanced Mode. Then from the resulting menu, choose Scanner Control. The following Scanner Control dialog box will then display to allow you to change the default settings.

NOTE If your scanner does not support the 'Power-Saving' and 'Compression' features, "Scanner Control" will not display from the menu.

If only 'Power-Saving' is supported ('Compression' not supported), "Compression" is grayed out (disabled) from the dialog box. Likewise, if "Compression" is enabled, but only either "Lossless" or "Lossy" compression mode is supported, only the supported mode is enabled. The non-supported mode is grayed out.



Compression Capability

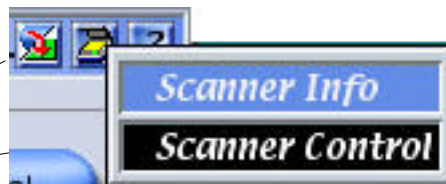
Compression is supported in certain scanner models. If your scanner does not support any of the compression modes (Lossless or Lossy), the Compression pane in the Scanner Control dialog box is grayed out (see figure in previous page).

If Lossless compression is available, the scanner will scan and compress the image before sending the image data to ScanWizard 5. The image data is then automatically decompressed without losing its image quality by ScanWizard 5.

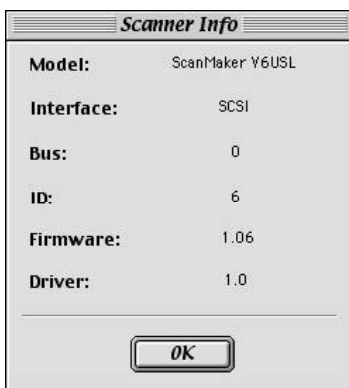
If Lossy compression is supported, the scanner will scan and compress the image before sending the image data to ScanWizard 5 where it is automatically decompressed. The level of compression and decompression is dictated by the setting provided in the Lossy slide meter. Take note that the higher the compression, the lower the image decompression quality, and vice versa.

Scanner Information

Click **Scanner** menu bar (Advanced mode, top) or Scanner icon (Standard mode, bottom), then choose scanner information from their respective menus to display the Scanner Information window



ScanWizard 5 is constantly in touch with your scanner, monitoring the scanner availability, serviceability, as well as its make and model. To see how your scanner is doing, simply click the Scanner menu from the ScanWizard 5-Advanced Menu bar, or click the scanner icon from the ScanWizard 5-Standard Title bar (see figure above). From their respective menus, choose the item pertaining to scanner information. The Scanner Information dialog box will then display as shown below.



Advanced Mode



Standard Mode

ScanWizard 5 Help Features

On-Line-Tutorial from ScanWizard 5-Standard Control Panel

Aside from on-line-help, the Help [?] icon on the Title bar also provides access to the Tutorial Guide program and ScanWizard 5-Standard version information.



Click Help [?] icon to access on-line-help, Tutorial, and ScanWizard 5-Standard version information

Tutorial Guide

ScanWizard 5-Standard has a simple but effective tutorial that guides you to scan, step-by- step.

To access the tutorial, simply click on the Help [?] icon near the right end of the Title bar, then choose Tutorial Guide from the resulting menu.

About ScanWizard 5

To learn more about the version and release date of your ScanWizard 5, click on About from the menu under the Help icon. The following splash screen will appear.



Installation

This section emphasizes the important areas that should be taken into consideration when installing ScanWizard 5 and other TWAIN-compliant software interfacing with ScanWizard 5. For full installation details, refer to the *Installation Guide* that came with your scanner package.

Installing ScanWizard 5

Install the ScanWizard 5-Standard driver program as instructed in the *Installation Guide* that comes with your scanner.

NOTE *For ScanWizard 5-Standard to work properly after installation, the correct scanner model should be properly connected to your host beforehand. The scanner needs to be powered on before you start ScanWizard 5.*

Installing Your Image Editor

If you intend to deliver your scanned image to an image-editing program such as Adobe Photoshop, you also need to install that particular image-editing program.

ScanWizard 5 supports Photoshop and the PhotoDeluxe image-editing program.

Installing Your E-mail/Web Browser

If you are going to send out your scanned image via e-mail or wish to view the scanned image with a web browser (e.g., Microsoft IE or Netscape Navigator), you will also need to install your Internet program. Refer to the table below for web browser and e-mail programs supported by ScanWizard 5. Installation and setup details for these programs are described in the Appendix section of this manual.

Embedded in the ScanWizard 5 is a modest "Internet Mail" mail program that allows you to send scanned images via the Internet without the hassle of going through commercial Internet e-mail programs.

Web Browsers	E-Mail Processors
Netscape Navigator Internet Explorer	Netscape Messenger 4.6 QualComm Eudora Pro 3.x Outlook Express Microsoft Outlook 97/98

2 Introduction to ScanWizard 5 Windows

ScanWizard 5-Standard Control Panel

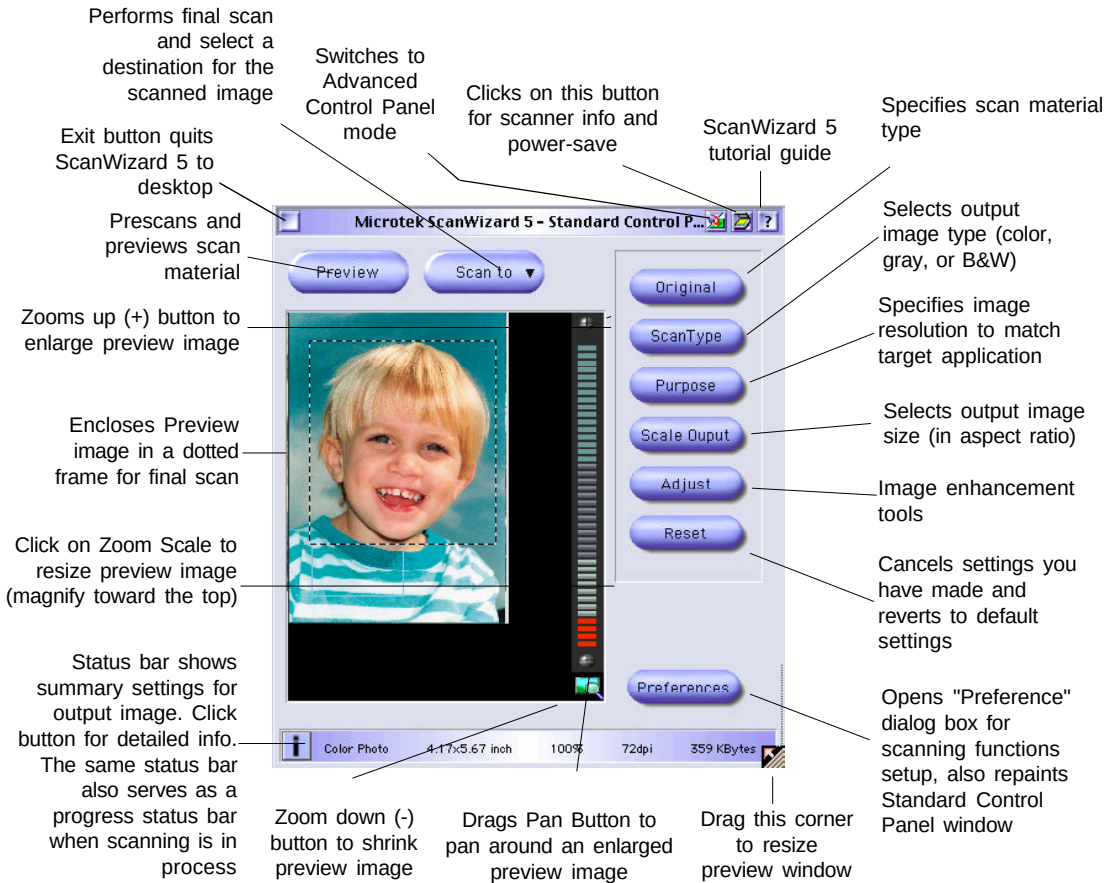
ScanWizard 5-Standard is a single-window program that offers a simple and straightforward way of navigating through a scanning session. It is a program designed for beginners or for those who wish to accomplish scanning jobs quickly. Despite its simplicity, ScanWizard 5-Standard offers the essential tools for adjusting and enhancing your original image before final scanning.

When ScanWizard 5 is launched from an image editing application, the scanned output image is directly delivered to your image processing application. When it is run on its own or as a stand-alone program from your program manager (or run from the scanner's "Go" or "Scan" start button, or from its desktop Assistant buttons), you are provided with options to either store the output image to a file, copy it to your printer, or attach it to an e-mail. You can also instruct ScanWizard 5-Standard to automatically launch your image and web browser applications and have the recently saved image opened in it.

Aside from the "Go" or "Scan" start button, ScanWizard 5-Standard also supports and may be launched from scanners equipped with the "Copy" and "E-mail" start buttons. The "Go" or "Scan" start button provides access to all available destinations; the "Copy" and "E-mail" buttons provide shortcut access to printer and e-mail functions respectively. You may, however, change the predefined destinations to assign other destinations before final scanning.

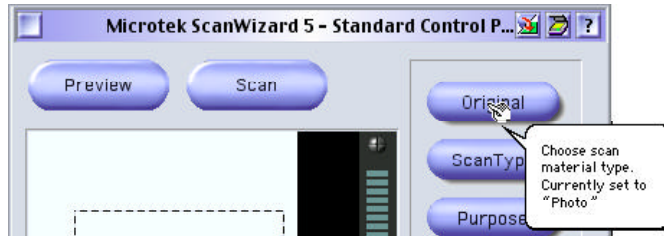
Integrated with ScanWizard 5-Standard is a "follow-me" tutorial that will guide first-timers on a step-by-step scanning. The easy-to-follow tutorial will instantly educate new scanner users on how to produce a digitized image from a printed graphic through the scanner.

The ScanWizard 5 Main Window



Instant Help for Beginners

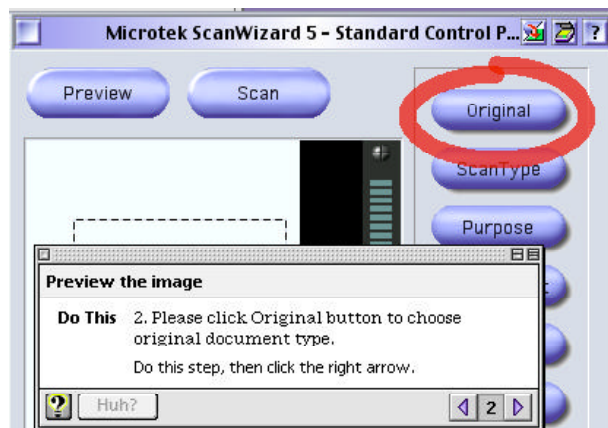
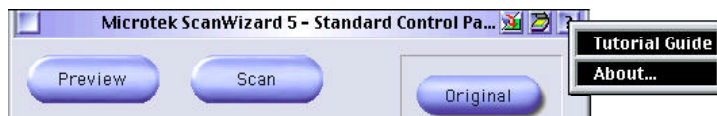
When you move the mouse pointer over any of the capsule-shaped buttons, a balloon shape callout containing hints on function and information of the button will display. You may hide Balloon Help from the Preferences dialog box.



Tutorial, the Beginner's Guide

Standard Control Panel provides a simple and informative Tutorial that guides you, step-by-step, to scan an image.

To Access the Tutorial, click on the Help (?) button in the upper right corner of the Title bar. Then Choose Tutorial Guide from the resulting menu.



Control Panel Switch Button

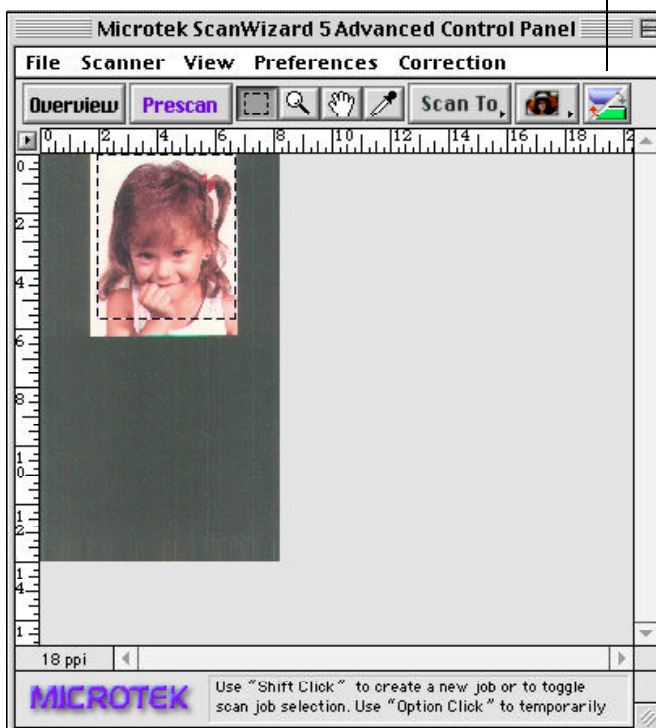
Once you know how to scan in the Standard Control Panel mode, you may wish to explore the Advanced Control Panel.

To switch between Advanced Panel and Standard Control Panel mode, click on the Panel Switch button.

The Advanced Panel provides you with more image enhancement settings before the final scan.

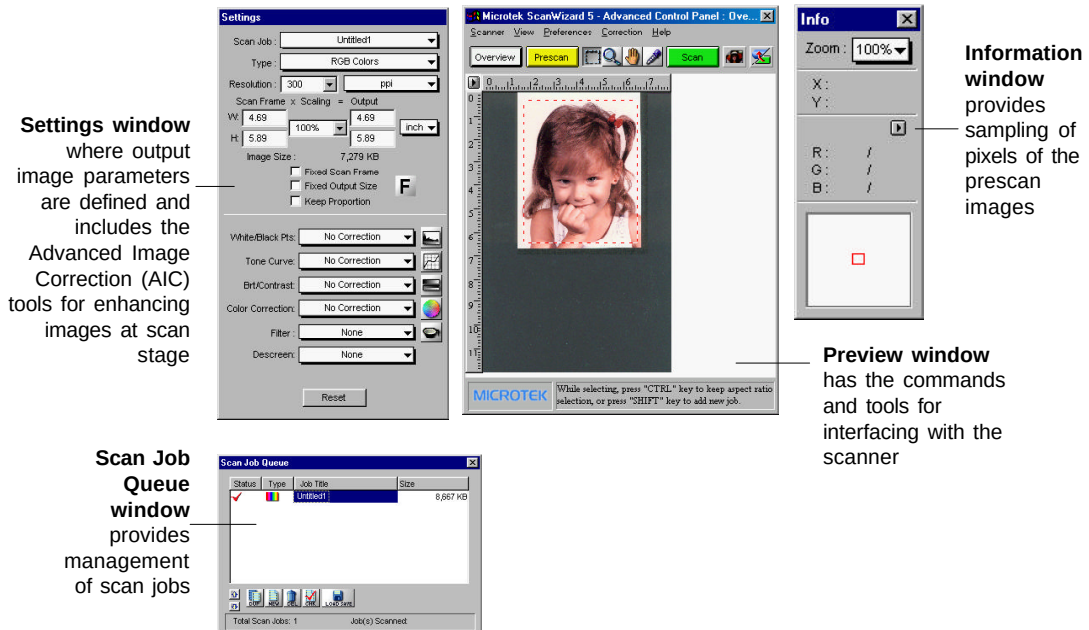


Click this switch button to switch from Standard Control Panel to Advanced Control Panel mode



ScanWizard 5-Advanced Control Panel

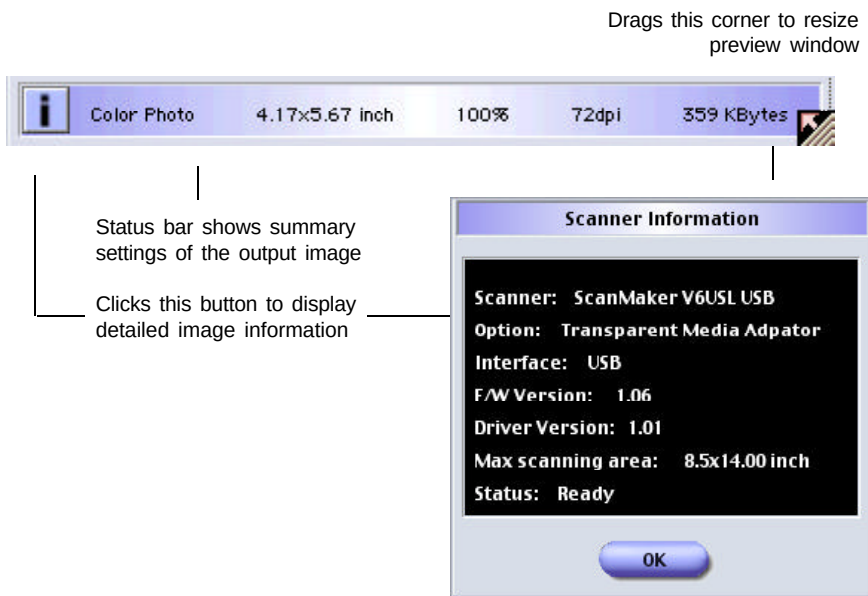
The ScanWizard 5-Advanced Control Panel has four major windows consisting of the Preview, Settings, Information, and Scan Job Queue windows.



The Preview and Settings windows will always appear automatically whenever ScanWizard 5 is started up. The Information and Scan Job Queue windows will appear when you bring up ScanWizard for the first time but will not reappear if you have hidden these windows the last time you ran ScanWizard. You may show (or hide again) the Information and Scan Job Queue window by clicking on the View menu (on Preview window menu bar) and click on *Show* (or *Hide*) *Info/Scan Job Window*.

Output Image Information

The Standard Control Panel displays information relating to your scanned image in the Status Bar (located at the bottom of Standard Control Panel window). For complete image information, click on the Information button (i) at the left end of the Status Bar. The Image Information box appears, listing the complete settings of your output image. Default settings are displayed if no image adjustments have been made.



3 Your First Scan with ScanWizard 5-Standard

Launching/Exiting ScanWizard 5

Be sure to launch from your image processor if you wish to further edit or manipulate the scanned image with your application. Launch from your scanner start buttons, ScanWizard 5 Assistant button, or Macintosh ScanWizard 5 folder if you are going to save, print, browse, or e-mail the output image.

To quit ScanWizard 5, simply click on the close button at upper left corner of the ScanWizard 5-Standard window.

When Launching from Scanner Start Buttons and Assistant Buttons

If your scanner is equipped with the “Go”, or the combination of “Scan”, “Copy”, and “E-mail” start buttons, you may launch ScanWizard 5-Standard by pressing any of the buttons (or clicking from the desktop Assistant buttons). ScanWizard 5-Standard will run as a stand-alone program, but varying default output image destinations will result in each type of button:

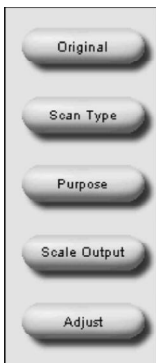
- “Go”/“Scan” start button runs ScanWizard 5-Standard as if it were launched from Start menu. The last function defined for the scan button will be the default for the next scanning session. You may change output image destinations as you please.
- “Copy” start button runs ScanWizard 5-Standard with the primary purpose of printing your output image. Hence, you are prompted with a printer setup dialog box before final scanning. You may, however, abort printing and redirect output image to other destinations as in regular operation.
- “E-mail” start button runs ScanWizard 5-Standard with the intent of attaching the output image to your e-mail composer. Hence, you are prompted with a dialog box where “E-mail” or “Internet Mail” are the only possible destinations for the output image after it is saved to file. You may, however, abort the e-mail processing and redirect output image to other destinations.

Previewing Your Original Scan Material

When you launch ScanWizard 5, your image must already be in the scanning area. The Standard Control Panel automatically detects the image, performs a preview of the image, and displays in the preview window.



If the auto preview function is disabled, ScanWizard 5 will assume your image type is color and perform a preview. You still can specify the image type by first clicking on the original button. From the submenu, select the scan material type.



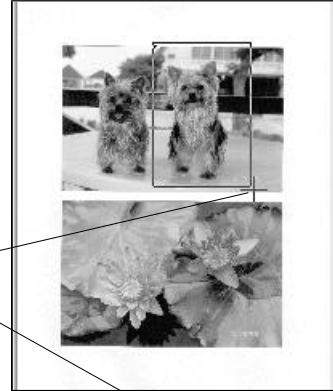
NOTE *There is no sequence of order in defining attributes of your images, i.e., **Original**, **Scan Type**, **Purpose**, **Scale Output**, and **Adjust** buttons.*

Create and Manipulate a Scan Frame Selection

If you wish to scan only a segment of your scan material, you can do so by plotting a scan frame (or a scan job selection) around the chosen area within the preview image. The area outside the scan frame is excluded from the final scanned output image.

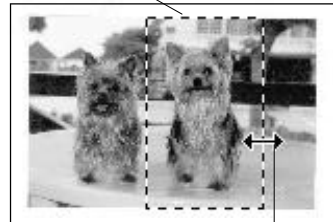
Plotting a Scan Frame Area from the Preview Image

To plot a scan frame, point at any corner of your intended scan frame. When the crosshair pointer appears, drag diagonally until the selection is enclosed in a frame, then release the mouse. Your actual scan frame border now turns into cascading lines.

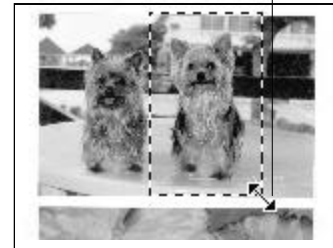


Resizing a Scan Frame

You may adjust the size of your scan frame by pointing at any side of the scan frame. When the 2-way arrow pointer appears, drag horizontally or vertically until you have achieved the desired adjustment of the width and height of the scan frame.

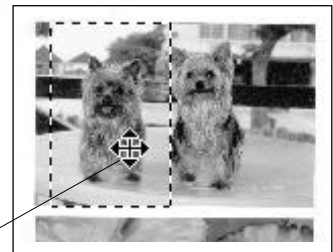


You can also adjust the scan frame width and length together by pointing at any corner of the scan frame. When the diagonal 2-way arrow pointer appears, drag diagonally until you achieve the desired adjustment to the scan frame.



Moving Scan Frame

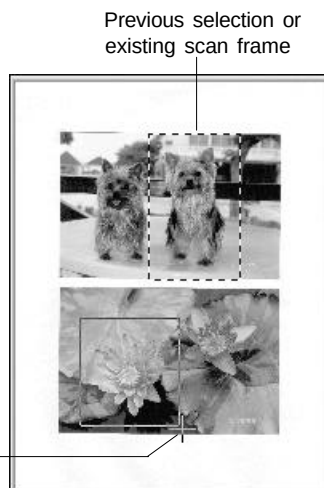
When you wish to maintain or use the existing scan frame size and then select another part of the image, just move the existing scan frame over to the new part to be scanned. To accomplish this, point anywhere within the existing scan frame. When the 4-way arrow pointer appears, drag the scan frame to the location of the new part to be scanned.



Specifying a New Scan Frame

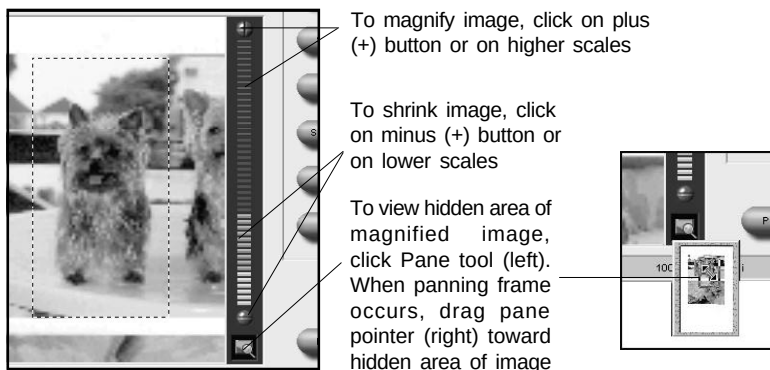
To create a new scan frame (instead of using the existing one), point at any corner over the image. This changes the pointer to a crosshair. When the crosshair pointer appears, drag diagonally until you get the frame you need. When you release the mouse button, the previous scan frame is discarded.

Drag crosshair pointer to plot a new scan frame selection.
(previous selection is discarded.)



Enlarging/shrinking Your Preview Image

ScanWizard 5-Standard allows you to enlarge the preview image up to 4 times (400%) the size of your original. The zoom scale bar (located at the right side of your preview image) supports zooming of your preview image. To enlarge image, select from full scale (100%) to 4 times (400%). To reduce image, click toward the bottom (or minus [-] button) of the bar; the image is scaled down at the same increment, with the original size as minimum.



Viewing Hidden Areas of Magnified Image

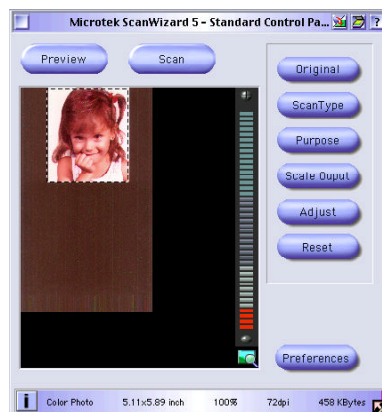
When the enlarged image is too large to fit within the preview window, click and drag the Pane tool (see figure above). A panning frame occurs displaying a thumbnail image. Drag the pane pointer toward the direction of the off-the-screen area in the thumbnail image, the image will display in the preview window.



Resizing Main Preview Window

Another way to view the off-the-screen area of an enlarged image, is to expand the size of the preview window. Simply point at the bottom-right corner of the window. To expand the window, drag the corner down when the diagonal 2-way arrow pointer occurs.

If you have a small-size original (e.g., pocket book photo, match box, slide, etc.), expanding the preview window before clicking the **Preview** button will allow you to view a larger size and a clearer preview of your original. This will make selection of a scan frame from the preview image easier.



Point at this corner. Then drag the 2-way arrow pointer downward diagonally to expand preview window and expose hidden area of magnified image

Scanned image type

With the preview image displayed in the preview window, you can specify your image type. To do this, click the **Scan Type** button. ScanWizard 5-Standard offers 4 image types: True color, Web Color, Gray, and Black & White. Not all image types are supported; see the table below.



	True Color	Web Color	Gray	Black & White
Text Document	X	X	X	✓
Graphics	✓	✓	✓	✓
Photo	✓	✓	✓	✓
Magazine	✓	✓	✓	✓
Art Magazine	✓	✓	✓	✓
Newspaper	✓	✓	✓	✓
Positive Film	✓	✓	✓	X
Negative Film	✓	✓	✓	X

Resolution of Output Image

The **Purpose** button lets you see the resolution of scanned image. ScanWizard 5-Standard provides predefined resolutions that match the image type of your original scan material.

From the menu select the setting that will best match the intended device application for your scanned image. Different types of originals may have different predefined values of resolution; see the following table.



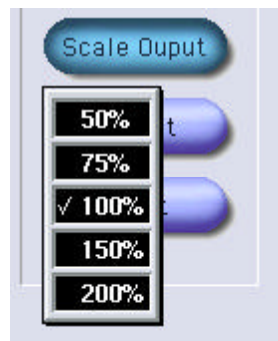
Select "Custom" and enter custom resolution in the Edit box

	Text Document	Photo and + / - Film	Graphic and Magazine
Normal Screen	72 dpi	72 dpi	72 dpi
Fine Screen	96 dpi	96 dpi	96 dpi
Ink Jet Printer	300 dpi	200 dpi	300 dpi
300 Laser Printer	300 dpi	100 dpi	300 dpi
600 Laser Printer	600 dpi	150 dpi	300 dpi
Fax	200 dpi	200 dpi	200 dpi
OCR	300 dpi	300 dpi	300 dpi

If none of the predefined resolution matches your need, you may define your own resolution by selecting 'Custom' and then enter your own resolution value in the Edit box provided at the bottom of the menu. Note that the higher the resolution, the larger the resulting file will be.

Scaling scanned image size

By default, ScanWizard 5-Standard scans your original at full size (100%) . To change the scale of scanned image, click on the **Scale Output** button. From the submenu, select the predefined scaling you wish -- from half-size (50%) to twice the original (200%).

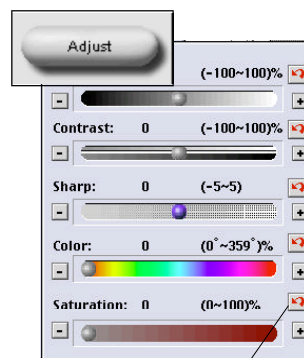


Improving Image Before Final Scan

When you perform a preview of the original image, ScanWizard 5-Standard automatically enhances the quality of the image by using its default settings. For further enhancements, click on the **Adjust** button and set the image enhancement parameters you need.

After clicking the **Adjust** button, adjust the appearance of the preview image by dragging the pellet button along the slider. As you drag the pellet button, your preview image is updated in real time. To reset the correction tool back to its original settings, click on the reset icon at right end of each tool (see figure at right).

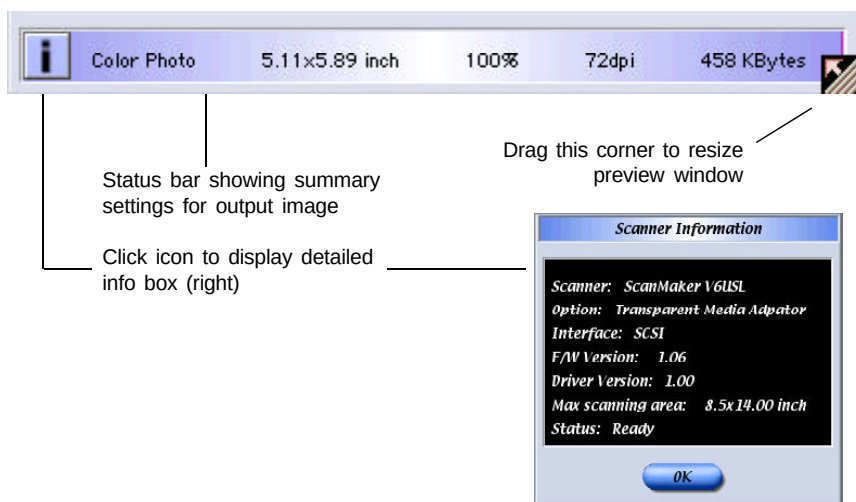
Note that the new settings are automatically saved and remain effective for subsequent prescanning or scanning the next time you start your Macintosh. The settings are still effective, unless otherwise redefined or reset to the default values.



Reset icon. Use this icon to individually reset the adjustment you have made to each image correction tool, back to its default setting.

Output Image Setting Information

As you perform adjustments and define various settings for the output of your original image (as reflected in the preview image), ScanWizard 5-Standard monitors and makes records of them. Part of the defined settings are displayed in the Status Bar (at the bottom of ScanWizard 5-Standard window) as soon as changes are made, while a separate and more comprehensive record of the changes are kept at the same time. To view a complete record of your settings, click on the Information icon [i] at the left end of Status Bar. The Image Information window then appears, listing all the current settings for your output image. If you have not made any adjustment, the default settings will display.



Reset and Revert to Default Settings



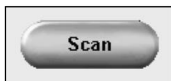
When you feel like abandoning the adjustments you have just made, you can easily revert to ScanWizard 5-Standard default settings and start all over again. Click on the **Reset** button. All changes you have made in the menus and control panels under **Original**, **Scan Type**, **Purpose**, **Scale Output**, and **Advance** buttons are then reset back to ScanWizard 5-Standard defaults.

NOTE The settings you have made to dialog boxes under **Preference** and **Scan/Scan to/Copy/E-mail** buttons are not affected with the execution of the **Reset** button.

Final Scan and Output Image Destinations

When you are satisfied with the appearance of the image in preview window, you may now click the **Scan** (or **Scan to**) button.

Using ScanWizard 5 under an Application



If you launched ScanWizard 5-Standard from an image editing application (e.g., Adobe Photoshop), the scanned image is controlled by the **Scan** button. Upon completion of scanning, the scanned image is delivered directly to your image editing application. From your application, you may further edit and save the image.

Using ScanWizard 5 as a Stand-Alone Program

If you launched ScanWizard 5-Standard from the desktop or from the “Go” button of your scanner, the scan button will appear as the **Scan to** button, **Copy** or **E-mail** button, depending on which option was last used. Default is **Scan to**.



Saving Scanned Image to a File

To save the scanned image as a file, click the **Scan to** button. The Save As dialog box displays.



If the current button shown as **Copy**, hold the pointer on the button for about two seconds or until the submenu appears. When the submenu displays, choose **Scan to file**. The Save As dialog box displays (see next page) and the button turns into **Scan to** button.



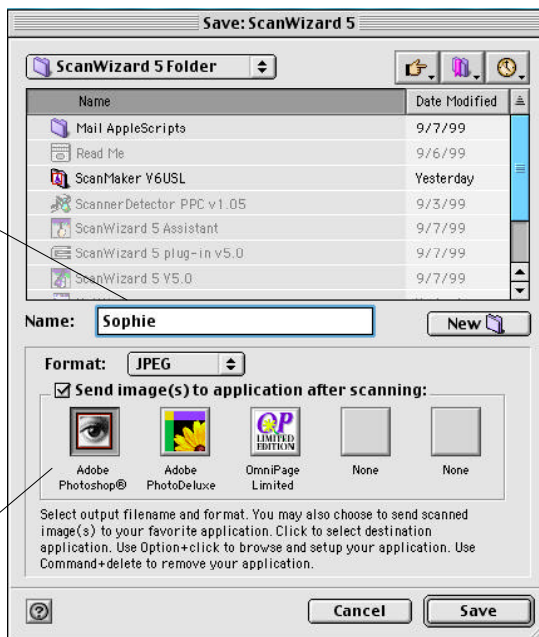
Hold pointer on the button for about 2 seconds to display the menu for selecting destination of output image



You may revise the default filename. During batch scanning with a scanner equipped with an auto document feeder (ADF), you may provide a root filename. ScanWizard 5 names subsequent files with a suffix user's number.

Check to launch your image editing software (Photoshop in this sample figure) and to open the saved image into your image editing application.

Applications icon. Your available image editing software and Internet application programs are auto-detected and listed here for your selection.



You may modify the folder and filename in the Save in and Filename panes, then click the **Save** button. The image is scanned and saved as a file.

NOTE By default, files are saved in a 'Data' folder located in the same folder as your ScanWizard 5.

Bringing the Saved Image to an Application

Check the "Send image to application" if you wish to do any of the following: If you wish to edit the scanned image with your image editing software; if you wish to send the image as attachment to your e-mail; if you wish to display the image with your browser. Then select your application from the application icon.

ScanWizard 5-Standard is designed to automatically detect the following image and internet applications, as shown in the table (see next page).

Image Processor		Internet/Mail	
Photoshop	PhotoDeluxe	Netscape Navigator	Netscape Messenger 4.6
		Internet Explorer	QualComm Eudora Pro 3.x
		Outlook Express	Microsoft Outlook 97/98

Batch Saving of Outputs from ADF Equipped Scanners

If you are using a scanner equipped with the automatic document feeder (ADF) that allows multiple-page scanning, you can auto scan and save scanned images in batches.

In this case, ScanWizard 5 will automatically assign serial filenames for the batch images and store them when the images are scanned in sequence.

Batch sending of ADF Scanned Images to an Application

Multiple images can also be sent in batches to your application after they are scanned. Check the "Send images to application" check box, and click the **Save** button. After all images have been scanned and saved, the selected image editing software application is launched. Then it opens the images from files (in the same sequence as they were saved) and displays them in your application.

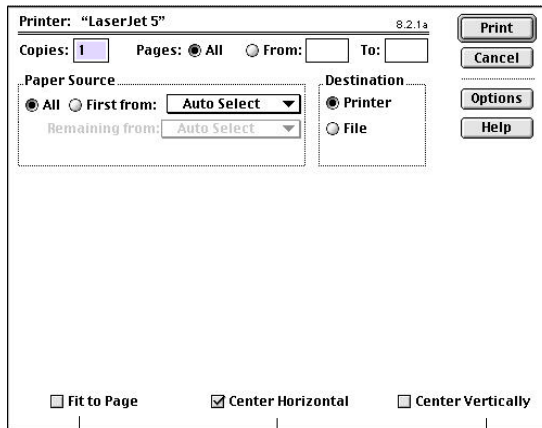
If an E-mail application is selected, the files are attached to your e-mail as multiple attachments.

If an Internet Mail application was selected, the files are delivered to the Microtek e-mail editor in one batch as multiple attachments.

Copying (Printing Image)



You need the **Copy** button to send an image directly to the printer. Set your printer from the Chooser submenu of Apple menu. Click this button, and the Printer dialog box displays.



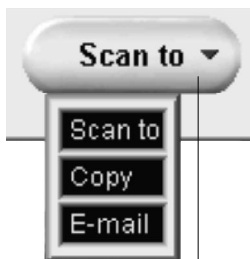
Select "Fit to Page" to print and fill whole page (image is enlarged and printed full page, but may not print proportionally)

Select "Center Horizontally" to print image at the center of right and left edges of the page

Select "Center Vertically" to print image at the center of top and bottom edges of the page

Scan to File

If the current button shown is Scan to, move the pointer over the button for about 2 seconds. When the submenu displays, select Scan To File. Specify the file location and the filename.



Hold pointer for about 2 seconds to display menu for selecting destination of output image

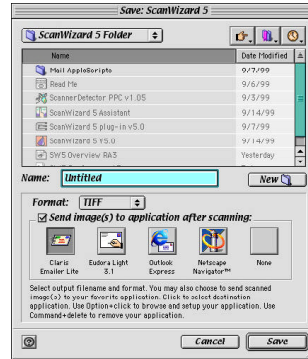
Attach Output Image to an E-mail



You need the **E-mail** button to attach the output image to your e-mail. If the button is currently set at **E-mail**, click the button and the Save As dialog box displays.

Otherwise, hold pointer on the button for about two seconds or until the selection menu appears (see top-left figure on previous page). Then select E-mail from the menu.

The button immediately turns into **E-mail** button while the Save AS dialog box immediately displays with the application check box enabled by default. Click to select from the application icon which e-mail processor you are going to use (see figure at right).



'E-mail' is the e-mail editor (Netscape Messenger, Microsoft Outlook, etc.) you have previously installed in your host. If none is installed, only 'Internet Mail' will be available from the application icon.

'Internet Mail' is the Microtek provided e-mail processor embedded in the ScanWizard 5.

Click the **Save** button to execute final scanning, to save the output image to file, and to launch your e-mail application with the output image attached.

Setting Preferences in ScanWizard 5-Standard

When ScanWizard 5-Standard is launched for the first time, it will auto detect, by default, the type of scan material you have placed in your scanner and automatically perform a prescan on the original material. The prescan image is then placed in the preview area of the ScanWizard 5-Standard window. At the same time, it has a default window painted in "sky" blue tinted colors. You may change all these default conditions using the options offered in the Preferences dialog box described below.

NOTE *The customized settings you have made will remain in effect at subsequent ScanWizard 5-Standard start-ups until redefined.*

Preference Dialog Box

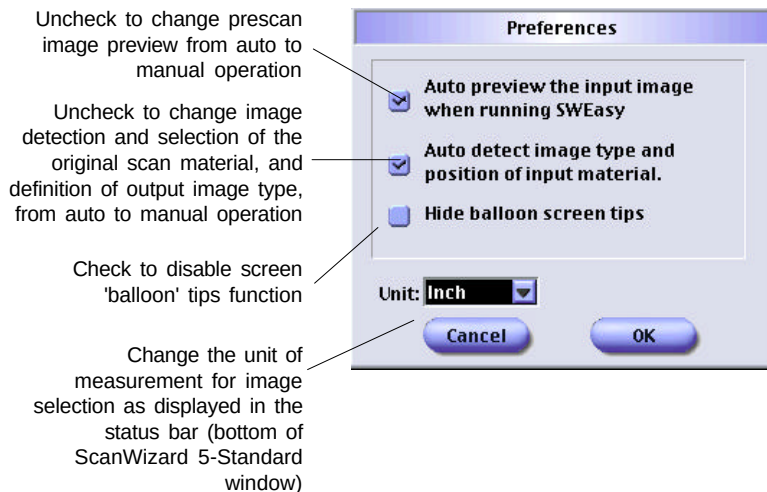
The Preferences setup dialog box provides options on how you would like ScanWizard 5-Standard to handle your scan material when the program is launched. You may also disable the balloon screen tip feature in this dialog box if you are already well-acquainted with the function of each button.

From the Preferences dialog box, you can also access the Appearance setup dialog box where coloring options are available for repainting your ScanWizard 5-Standard window. This includes all the buttons and the window background.



Left-handed users may also relocate the button pane location from the right to the left side of the window for added convenience.

To redefine Preferences setup, click on the **Preferences** button. When the Preferences dialog box displays, pick your options as illustrated in the following page.



4 Sample Scanning

Introducing ScanWizard 5 Advanced Control Panel

ScanWizard 5 is an easy-to-use twin-panel scanner controller program that lets you scan images accurately and efficiently.

ScanWizard 5 Advanced Control Panel packs many powerful features, including a sophisticated color matching system that lets you take advantage of the many advances made recently in the area of color matching.

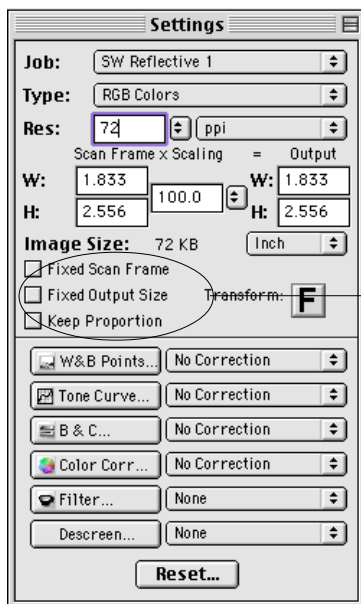
And ScanWizard 5 is ColorSync™-savvy as well, allowing you to use standard ICC color profiles for accurate color matching when outputting your images.

Other important features of ScanWizard 5 include the following:

- Overview function that lets you preview the entire scan bed.
- Prescan function that lets you preview a selected area in high resolution for viewing the image in greater detail. Multiple prescans can also be done, and you can switch easily among the various views.
- Advanced Image Correction for adjusting and enhancing images, with “before” and “after” thumbnails. All changes are shown in real time on the resizable Preview window.
- Dynamic scaling and input / output controls for precise calculation of image dimensions.
- Information window for identifying and isolating colors with accuracy and precision.

The ScanWizard 5 Advanced Control Panel Interface

Settings window



Shows the current scan job, corresponding to the current scan job in the Scan Job window and the selected image in the Preview window ("Three girls" in this example).

Image Type of the current scan job. See pages that follow for more details.

Resolution level, in pixels per inch or lines per inch.

Scan Frame, Scaling, and Output controls. See pages that follow for more details.

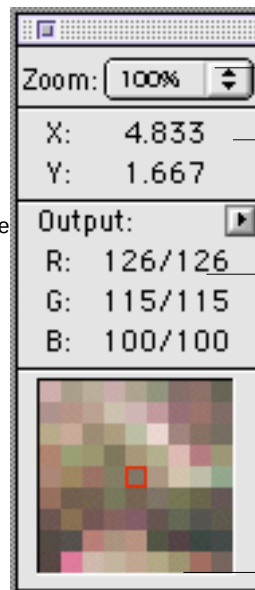
Unit of measurement

Scan Frame options

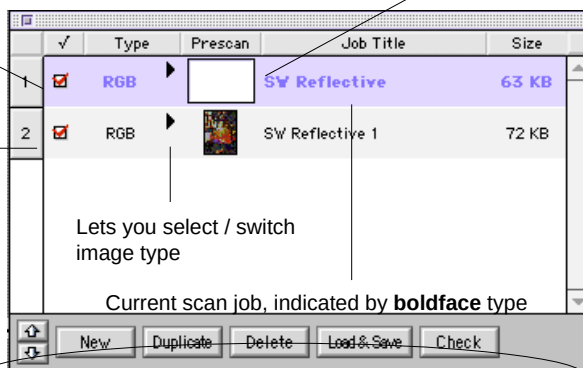
Transform tool for horizontal and vertical flipping, or 90° rotation, of images.

Advanced Image Correction controls: For adjusting and enhancing image quality. See pages that follow for more details.

Information window



Scan Job window



Check: Indicates job will be scanned when you press the Scan button.

Selected scan job, which is the highlighted job. There can be multiple selected scan jobs (several highlighted), which may or may not include the current scan job (in boldface type).

Lets you select / switch image type

Current scan job, indicated by **boldface type**

Function buttons

The ScanWizard 5 Interface

Prescan button:
Previews a high-resolution image of the area selected by the scan frame.

Scan button:
Starts the scanning process.

Scan Material icon: Selects the type of scan material. See pages that follow for more details.

Overview button:
Previews the entire scan bed. See pages that follow for more details.

Toolbar: Scan Frame, Zoom, Pane, Dropper. See pages that follow for more details.

Preview window

Unit of measurement.
Choose from inch, cm, mm, point, pixel.

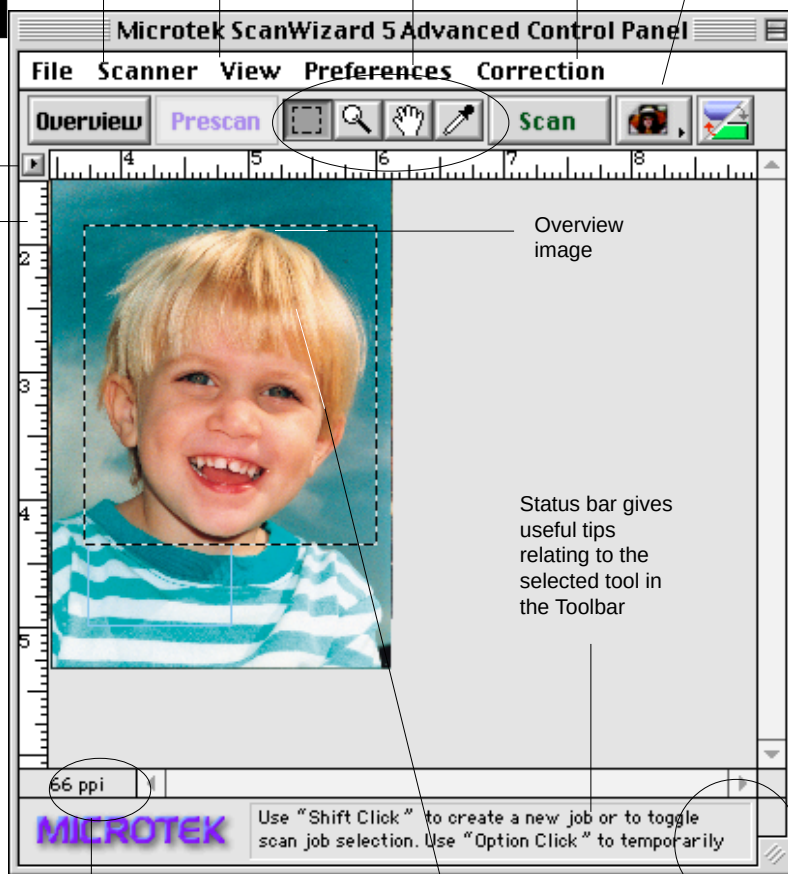
Ruler

Zoom Level Display:
Shows and lets you select magnification levels.

Cursor Locator: Shows x, y position of mouse cursor on the current overview / prescan image.

Color Meter Display: Displays input and output pixel values relating to the overview / prescan image.

Sample Display area:
Shows pixelized display of area in the overview / prescan image where mouse cursor rests.



Resolution of overview image

Scan Frame around overview image. Drag on corner to resize.

Drag this corner to resize the Preview window.

Image Types

ScanWizard 5 supports a variety of image types, including RGB, Grayscale, and bitmapped (Line Art, and B&W Diffusion).

The three most common image types are described below, and information on other image types is available in the *Supplementary Information* section of the manual.

• RGB Colors
RGB Colors (48-bit)
Gray Scale
Gray Scale (16-bit)
Web/Internet Colors
256 Colors [Default]
256 Colors [Custom]
Line Art
B&W Diffusion

- **RGB Color:** RGB (Red, Green, and Blue) images use three colors to reproduce up to 68.7 billion colors. RGB mode is used for most color images and is generally the mode employed for on-screen multimedia projects. ScanWizard 5 offers 24-bit RGB and 48-bit RGB color selection. The 48-bit option is exclusively available for Microtek's high-end professional pre-press scanners.
- **Grayscale:** Grayscale images use shades of gray to simulate gradations of color or tonal values, and contain 8 bits per pixel. The Grayscale 16-bit option is provided in ScanWizard 5 for professional pre-press scanners.
- **Line Art:** Line Art images are made up of one bit of color (black or white) per pixel. Few editing options are available in this mode, but this mode is useful for images consisting purely of black and white or even single colors, such as mechanical drawings, blueprints, or fine-line illustrations.

The Toolbar



Scan Frame tool: Lets you define the area to be scanned. The area of the overview or prescan image selected by the scan frame is the part that is scanned when you click the Scan button. To resize a scan frame, drag on the corner or edge of the scan frame surrounding the image, and resize the frame to the desired area.



Zoom tool: Zooms in (enlarges) or zooms out (reduces) the view of the preview image. To zoom in, click inside the image. To zoom out, hold down the *Option* key and click the mouse.



Pane tool: Scrolls through a zoomed-in image.



Dropper tool: Lets you use the Information window feature of ScanWizard 5, and also lets you set the black and white points. For more details, see "Using the Information Window" in the *Supplementary Information* section.

The Scan Material icon



Appearance of the icon when scanning in **reflective** mode.



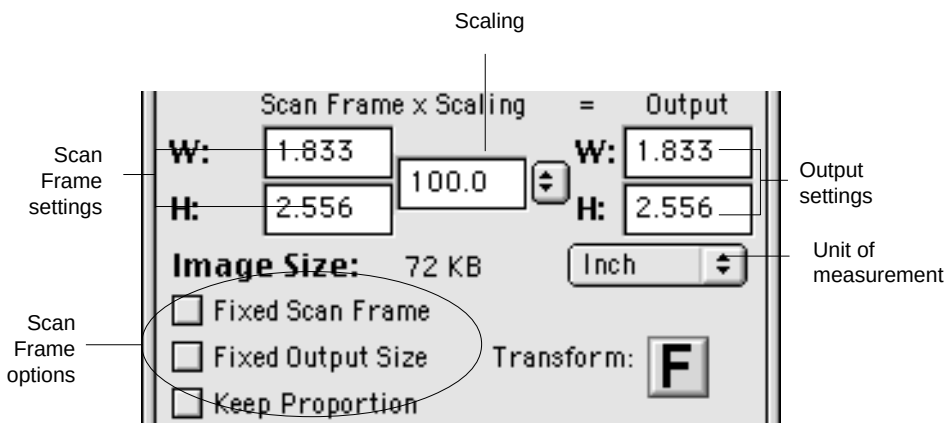
Appearance of the icon when scanning in **positive transparency** mode.



Appearance of the icon when scanning in **negative** film mode.

Scan Frame, Scaling, Output

The Scan Frame, Scaling, and Output settings allow you to control with precision the dimensions for your scanned image.



Take note of the following important points:

- For the Scan Frame settings (width and height edit boxes), enter the values manually; or use the Scan Frame tool to draw a scan frame in your preview window, and the scan frame dimensions will then be displayed in the edit boxes.
- Keep Scaling at 100% if you are outputting at the same size (ex. a 4" x 5" output at the same size). Increase or reduce the scaling if outputting at a larger or smaller size, respectively.
- Checking or unchecking the Scan Frame options will affect the relationship between the various settings. If the *Fixed Scan Frame* option is checked, for instance, changing the Scaling will change the Output settings accordingly, or vice versa.
- To use any of the Scan Frame options correctly, enter the desired values in the edit boxes **first** before checking the corresponding option. For instance, if you know your exact input values and wish to “lock” the settings of your scan frame, enter the values in the Scan Frame width and height edit boxes first, then check the *Fixed Scan Frame* option; the procedure cannot be done in reverse order. This principle applies to the *Fixed Output Size* option as well.
- Make sure you choose the unit of measurement (inch, pixel, etc.) to fit your need. Otherwise, you may obtain out-of-range values. If you enter a value that is illegal or out of range, the value will appear in red as a flag or warning.

For more details on scaling, refer to the scenario sketched out in “How to Scan and Display an Image” in the *Sample Scenarios* section of the manual. For a fuller discussion, see “Scan Frame, Scaling, and Output” in the *Supplementary Information* section.

Overview and Prescan

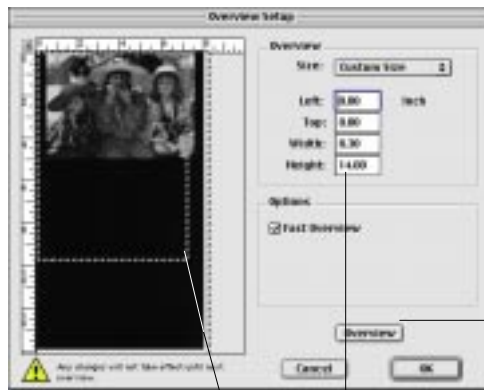
The Overview and Prescan buttons are used to obtain a preview of the image to be scanned. The Overview previews a specific area of the scan bed, while the Prescan previews the area selected by the scan frame in high resolution. Multiple prescans can also be done if you have several scan jobs defined, and you can then switch among the various views.

The default overview previews the entire scan bed, but you can specify the size of the preview area to fit your needs in the Overview Setup command. The Prescan Setup command lets you determine the margin and size of the prescan image.

To change your the size of your preview area:

1. Go to the *Preferences* menu in the Preview window, and choose *Overview Setup*.
2. When the Overview Setup dialog box appears, click the *Overview* button to preview the entire bed. This will help you determine how you wish to resize the overview area.
3. To change the overview area, you can:
 - Drag a rectangle that approximates the size of the overview that you wish; or
 - Enter the appropriate values for the *Top*, *Left*, *Width*, and *Height* edit boxes. Top and Left refer to the starting points of the overview area on the x and y coordinates. Width is the expanse of the overview area, and Height is the depth of the overview area. The new dimensions for the overview area will take effect on the next Overview — when you click the Overview button again in the Preview window (not the Overview button in the Overview Setup dialog box).

Note:
To get a bigger overview image on the monitor, enlarge your preview window by dragging on the bottom right corner of the window.



Click the Overview button to preview the entire bed, which can then help you determine the area you want for the overview.

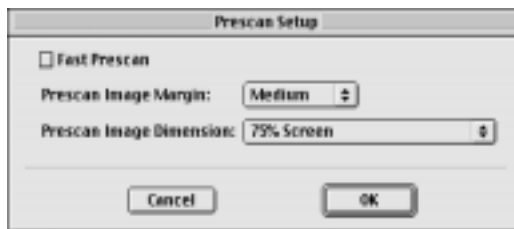
Drag the rectangle or specify values to change the size of the overview area.

To change the margin or size of the prescan image:

1. Go to the *Preferences* menu in the Preview window, and choose *Prescan Setup*.
2. When the Prescan Setup dialog box appears, specify your choices.
 - **Prescan Image Margin:** The options here let you specify how wide or narrow the margin around the scan frame is in the prescan image.

This is helpful because selecting the exact scan frame (through the Scan Frame tool) can never be a completely accurate process, and what appears to have been selected by the scan frame when you view the image in the lower-resolution overview may or may not actually include the portion you wish. The margin — depending on how wide or narrow it is — can then provide a berth or allowance for extending the boundaries of the scan frame around the prescan image.

- **Prescan Image Dimension:** This option lets you specify how large the prescan image will be (full screen, 75%, 50%, or fit current preview window). This allows you to either shrink the preview window to maximize the use of space on your monitor, or to expand the view of the image to full screen to see it in greater detail.



Advanced Image Correction

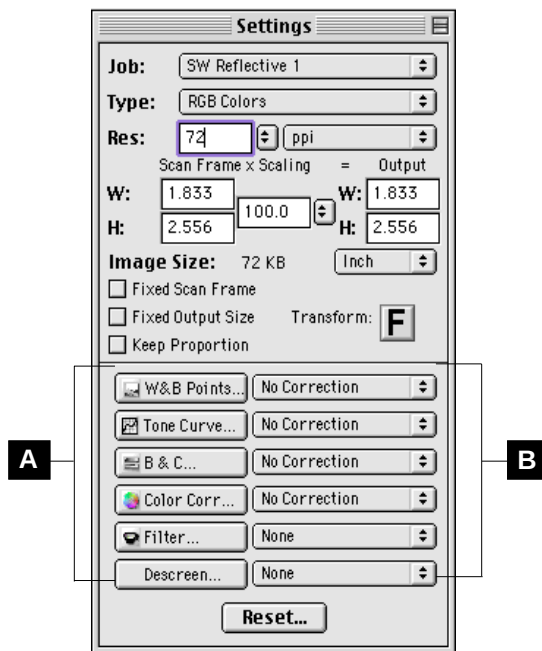
The Advanced Image Correction (AIC) features are an integral part of ScanWizard 5, allowing you to make corrections to the scanned image. Changes to the image can be viewed in real time in the Preview window and in the “before” and “after” thumbnails of the AIC dialog box.

- 1 Go to the Settings window; the Advanced Image Correction controls can be found on the lower half of the window. These controls have their counterparts on the *Correction* menu in the Preview window.
- 2 To use the controls:
 - A. Click any of the buttons on the left-hand side; or
 - B. Choose from the drop down menu on the right-hand side for custom options. For more details, see “Using Advanced Image Correction” in the *Supplementary Information* section of the manual.
- 3 If you click any of the buttons on the left-hand side, the AIC dialog box for the selected control will appear, allowing you to adjust the image.

The example on the next page shows the Color Correction dialog box, which lets you adjust or apply a color cast to an image by means of the color wheel.

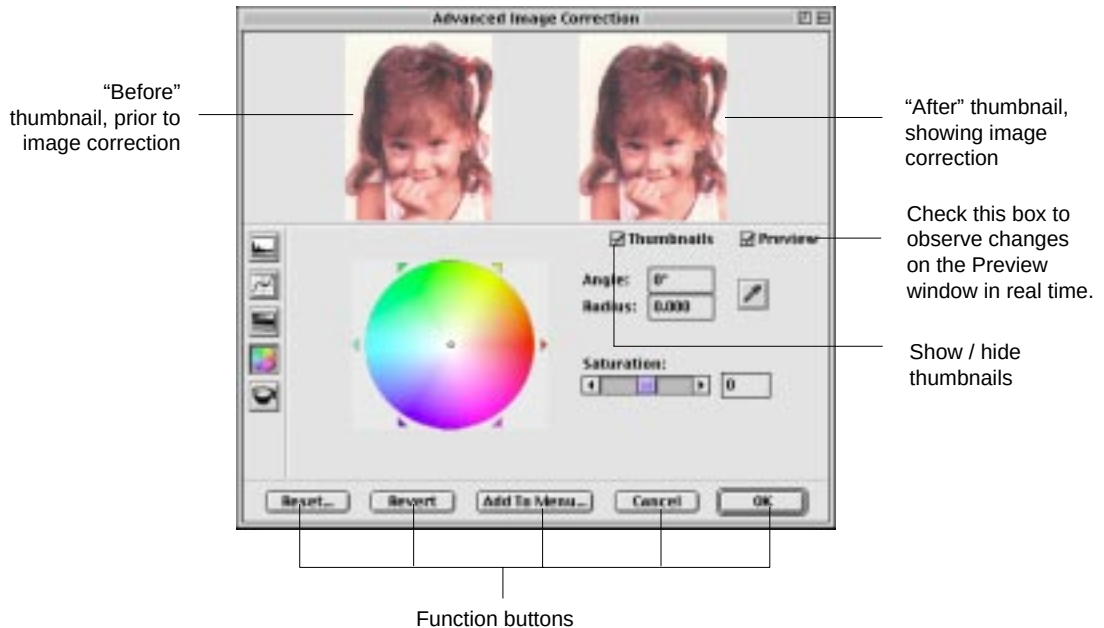
The left thumbnail is the “before” version of the image, and the right thumbnail is the “after” version of the image, adjusted for a slightly reddish cast.

If the *Preview* option is checked in the AIC dialog box, the correction will show up in real time in the Preview window as well, without you having to close the AIC dialog box.



For more details on the use of each of the AIC tools, see “Using the Advanced Image Correction Tools” in the *Supplementary Information* section of the manual.

Sample AIC dialog box (for the Color Correction option)



Function buttons:

Reset

Clicking this button brings up the Reset dialog box, where you can specify which settings are to be reset to their default values.

Revert

Clicking this button cancels out the changes you made with the current AIC tool. If you used several tools, using Revert will cancel the effect of only the current tool and preserve the effects of the other preceding tools. Example: If you changed brightness and added a filter, then clicked Revert, the filter is not applied but the altered brightness settings remain in effect.

Add to menu

Clicking this button lets you add a custom setting to the AIC menus in the Settings window (right-hand side of the AIC controls).

Cancel

Clicking this button cancels all image-adjustment changes made to the image, and then closes the AIC dialog box.

OK

Clicking this button accepts whatever enhancements you have made to the image, and then closes the AIC dialog box.

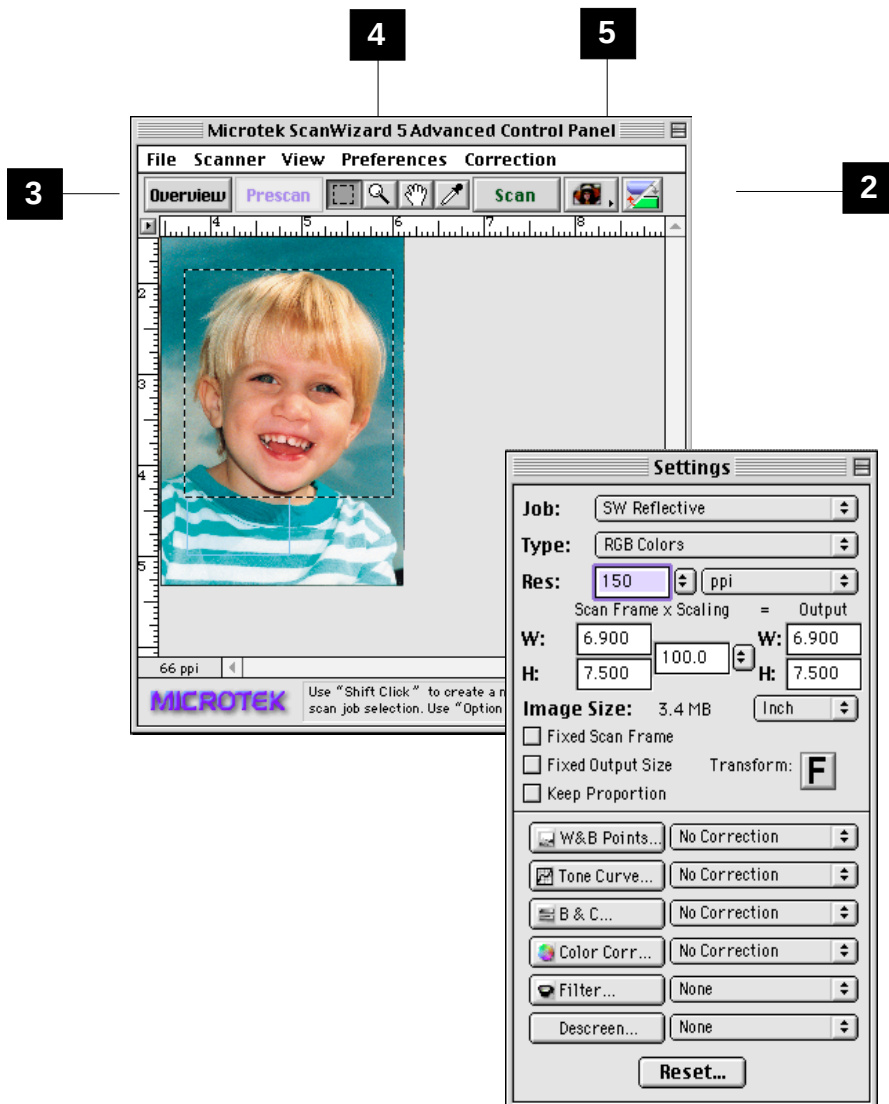
How to Scan a Color Photographic Print

- 1 Place the scan material to be scanned on your scanner's glass bed.
- 2 Go to the Preview window and click the *Scan Material* icon. From the submenu that appears, choose *Reflective*. You will notice the change in the appearance of the icon.
- 3 Click the *Overview* button to start an overview, and you will see the image appear in your Preview window.
- 4 Select the *Scan Frame* tool from the Toolbar in the Preview window, and choose the area to be scanned by dragging a rectangle around it. You will see a flashing frame (marquee) around the selected area.
- 5 If you like what you see in the Preview window, click the *Scan* button to start scanning.

If you want to.... Before the Final Scan

- Select an output image type (after step 2)
Go to the Settings window, and from the *Type* box, choose the appropriate image type for the image to be scanned. For more details, see “Image Types” in the *Supplementary Information* section of the manual.
- Specify output dimensions (after step 2)
Go to the Settings window, and enter the desired *output dimensions* (width and height) in the output dimension edit boxes. The scan frame may change slightly, and you may want to go back to the Preview window to move the scan frame and enclose the area you want. For more details, see “Scan Frame, Scaling, and Output” in the *Supplementary Information* section of the manual.
- Change output image resolution (before step 5)
Go to the Settings window, and enter the resolution value in the *Resolution* edit box.
- See a more detailed preview image (after step 4)
Go to the Preview window, highlight the scan job you wish to see in detail, and click the *Prescan* button. For more details, see “Overview and Prescan” in the *Basic Setup and Features* section of the manual.
- Fine-tune the preview image with image processing options (after step 4)
Go to the Preview window, and select the desired image-processing option from the *Correction* menu. Alternatively, you can go to the Settings window and click an image processing button; the Advanced Image Correction dialog box will then appear. For more details, see “Advanced Image Correction” in the *Basic Setup and Features* section and *Supplementary Information* section of the manual.

Scanning a Color Photographic Print



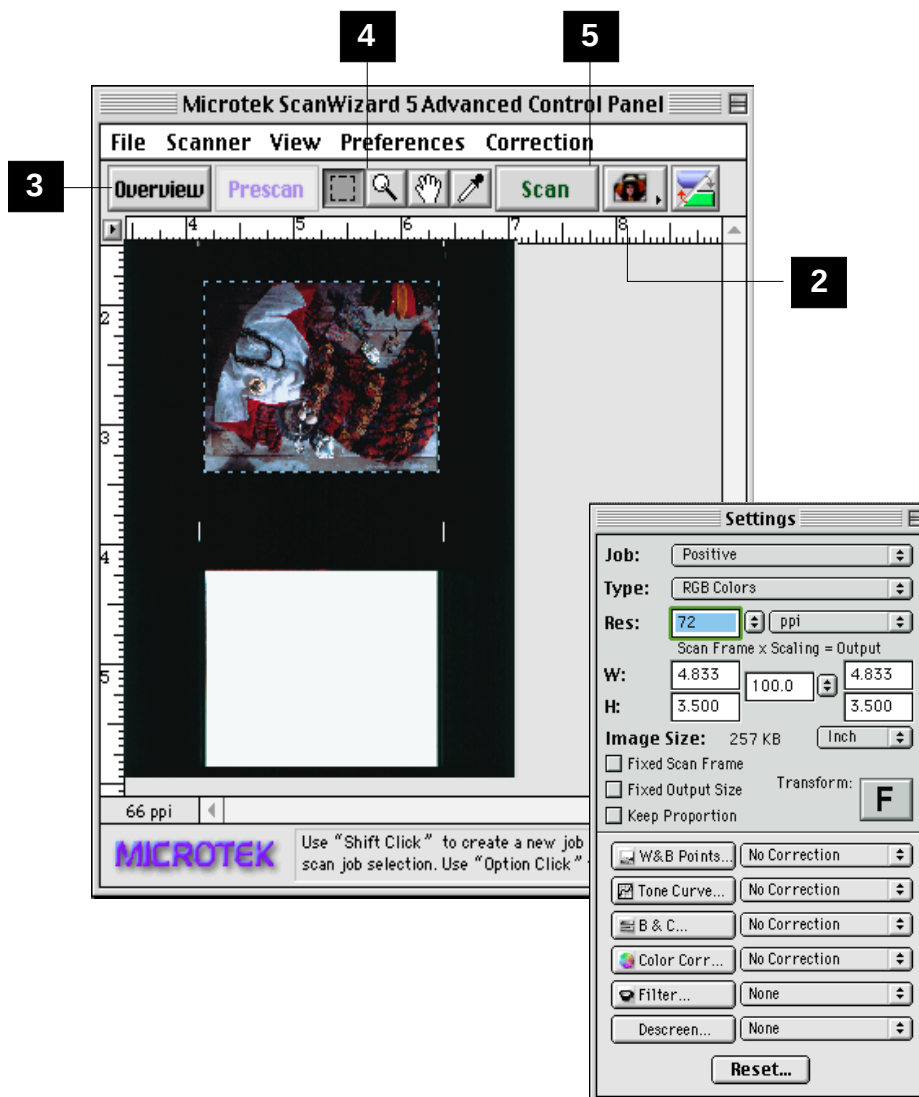
How to Scan a Color Positive Transparency

- 1 For dual bed-scanners, place the film to be scanned on the appropriate template, and insert the film and template into your scanner's lower bed. For flatbed scanners, use a Transparent Media Adapter.
- 2 Go to the Preview window and click the *Scan Material* icon. From the submenu that appears, choose *Positive Transparency*. You will notice the change in the appearance of the icon.
- 3 Click the *Overview* button to start an overview, and you will see the image appear in your Preview window.
- 4 Select the *Scan Frame* tool from the Toolbar in the Preview window, and choose the area to be scanned by dragging a rectangle around it. You will see a flashing frame (marquee) around the selected area.
- 5 If you like what you see in the Preview window, click the *Scan* button to start scanning.

If you want to.... Before the Final Scan

- Select an output image type (after step 2)
Go to the Settings window, and from the *Type* box, choose the appropriate image type for the image to be scanned. For more details, see “Image Types” in the *Supplementary Information* section of the manual.
- Specify output dimensions (after step 2)
Go to the Settings window, and enter the desired *output dimensions* (width and height) in the output dimension edit boxes. The scan frame may change slightly, and you may want to go back to the Preview window to move the scan frame and enclose the area you want. For more details, see “Scan Frame, Scaling, and Output” in the *Supplementary Information* section of the manual.
- Change output image resolution (before step 5)
Go to the Settings window, and enter the resolution value in the *Resolution* edit box.
- See a more detailed preview image (after step 4)
Go to the Preview window, highlight the scan job you wish to see in detail, and click the *Prescan* button. For more details, see “Overview and Prescan” in the *Basic Setup and Features* section of the manual.
- Fine-tune the preview image with image processing options (after step 4)
Go to the Preview window, and select the desired image-processing option from the *Correction* menu. Alternatively, you can go to the Settings window and click an image processing button; the Advanced Image Correction dialog box will then appear. For more details, see “Advanced Image Correction” in the *Basic Setup and Features* section and *Supplementary Information* section of the manual.

Scanning a Color Positive Transparency



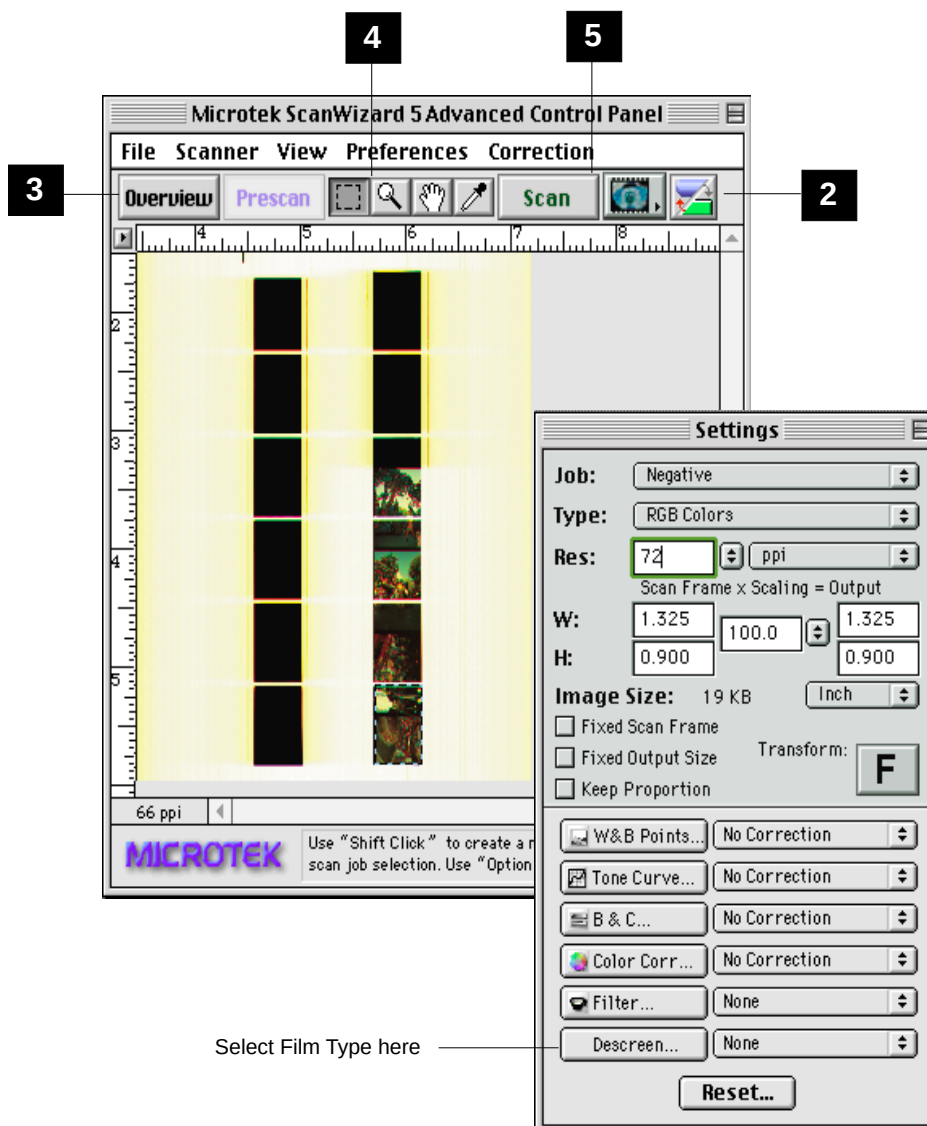
How to Scan a Color Negative

- 1 For dual bed-scanners, place the film to be scanned on the appropriate template, and insert the film and template into your scanner's lower bed. For flatbed scanners, use a Transparent Media Adapter.
- 2 Go to the Preview window and click the *Scan Material* icon. From the submenu that appears, choose *Negative Film*. You will notice the change in the appearance of the icon.
- 3 Click the *Overview* button to start an overview, and you will see the image appear in your Preview window.
- 4 Select the *Scan Frame* tool from the Toolbar in the Preview window, and choose the area to be scanned by dragging a rectangle around it. You will see a flashing frame (marquee) around the selected area.
- 5 If you like what you see in the Preview window, click the *Scan* button to start scanning.

If you want to.... Before the Final Scan

- Select an output image type (after step 2)
Go to the Settings window, and from the *Type* box, choose the appropriate image type for the image to be scanned. For more details, see "Image Types" in the *Supplementary Information* section of the manual.
- Specify output dimensions (after step 2)
Go to the Settings window, and enter the desired *output dimensions* (width and height) in the output dimension edit boxes. The scan frame may change slightly, and you may want to go back to the Preview window to move the scan frame and enclose the area you want. For more details, see "Scan Frame, Scaling, and Output" in the *Supplementary Information* section of the manual.
- See a more detailed preview image (after step 4)
Go to the Preview window, highlight the scan job you wish to see in detail, and click the *Prescan* button. For more details, see "Overview and Prescan" in the *Basic Setup and Features* section of the manual.
- Fine-tune the preview image with image processing options (after step 4)
Go to the Preview window, and select the desired image-processing option from the *Correction* menu. Alternatively, you can go to the Settings window and click an image processing button; the Advanced Image Correction dialog box will then appear. For more details, see "Advanced Image Correction" in the *Basic Setup and Features* section and *Supplementary Information* section of the manual.
- Adjust film type (before step 5)
Go to the *Film Type* menu in the Settings window and select the film type and manufacturer.

Scanning a Color Negative



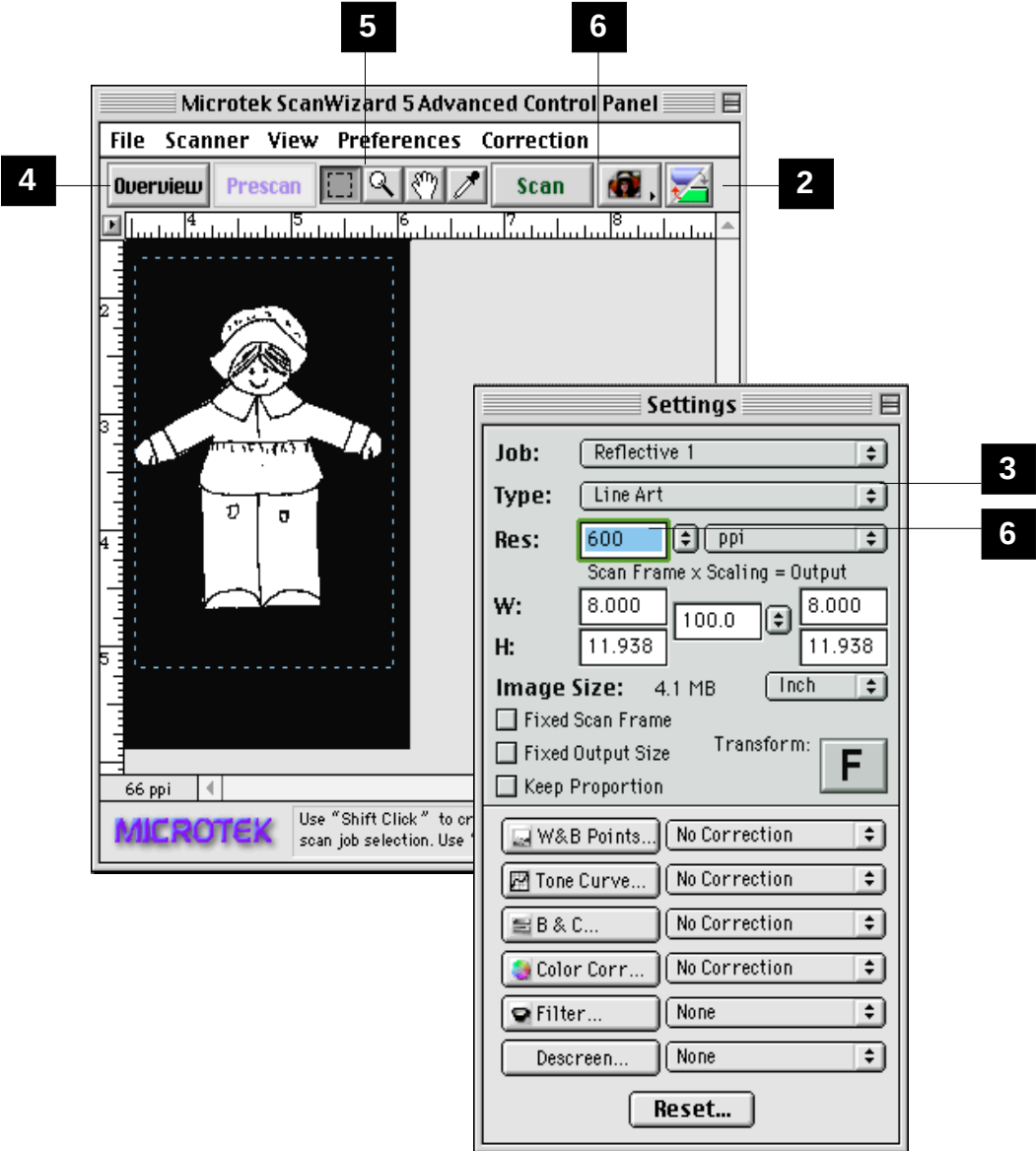
How to Scan a Line Art Image

- 1 Place the image to be scanned on your scanner's glass bed.
- 2 Go to the Preview window and click the *Scan Material* icon. From the submenu that appears, choose *Reflective*.
- 3 Go to the Settings window, and from the Type box, choose *Line Art*.
- 4 Click the *Overview* button to start an overview.
- 5 Select the *Scan Frame* tool from the Toolbar in the Preview window, and choose the area to be scanned by dragging a rectangle around it. You will see a flashing frame (marquee) around the selected area.
- 6 On the Resolution box, enter a *Resolution* value that at least matches the resolution of your printer (300 or 600 dpi, for example) to obtain optimal results.
- 7 If you like what you see in the Preview window, click the *Scan* button to start scanning.

If you want to.... Before the Final Scan

- Specify output dimensions (after step 2)
Go to the Settings window, and enter the desired *output dimensions* (width and height) in the output dimension edit boxes. The scan frame may change slightly, and you may want to go back to the Preview window to move the scan frame and enclose the area you want. For more details, see “Scan Frame, Scaling, and Output” in the *Supplementary Information* section of the manual.
- See a more detailed preview image (after step 5)
Go to the Preview window, highlight the scan job you wish to see in detail, and click the *Prescan* button. For more details, see “Overview and Prescan” in the *Basic Setup and Features* section of the manual.
- Fine-tune the preview image with image processing options (after step 5)
For Line Art images, only the *Threshold* option is available. Threshold measures how gray levels are converted to black and white, with the value of 128 (middle gray level) as the determining point of conversion. Gray levels below the threshold are converted to black, while gray levels above the threshold are converted to white.

Scanning a Line Art Image



How to Scan and Display an Image on a 640 x 480 Monitor

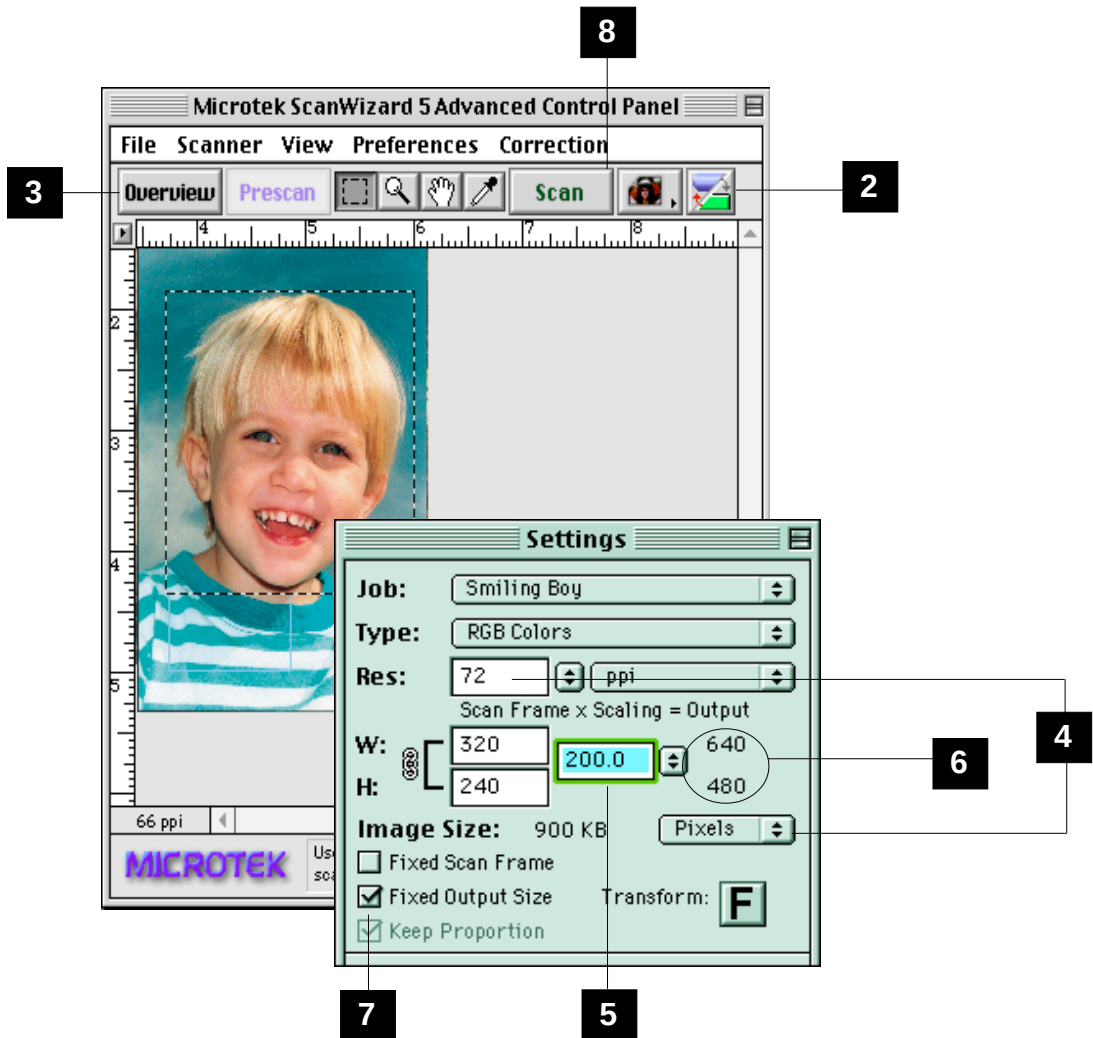
At times, you may wish to scan an image and then scale or resize the image so that it can be displayed on your monitor (either as a screen saver or wallpaper). The sample scenario below shows how this can be done.

- 1 Place the image to be scanned on your scanner.
- 2 Go to the Preview window and click the *Scan Material* icon. From the submenu that appears, choose the correct scan material type.
- 3 Click the *Overview* button to start an overview, and you will see the image appear in your Preview window.
- 4 Go to the Settings window, and choose *pixels* as your unit of measurement. Then, enter the resolution value in the *Resolution* edit box — 72 dpi in this case for monitor display. If you change the resolution after specifying the output dimensions, the dimensions will change, and you will then need to re-enter the correct output dimensions again.
- 5 Change to an initial scaling value of 200% in the scaling menu.
- 6 In the *Output* edit boxes, enter “640” for width and “480” for height. You will notice that the scan frame in your preview image changes.
- 7 Check the *Fixed Output Size* box. Adjust or move the scan frame to enclose the area you wish. A flashing frame (marquee) will be around the selected area.
- 8 If you like what you see in the Preview window, click the *Scan* button in the Preview window to start scanning.

If you want to.... Before the Final Scan

- Select an output image type (after step 2)
Go to the Settings window, and from the *Type* box, choose the appropriate image type for the image to be scanned. For monitor display of images, choose RGB, Grayscale, or Web / Internet colors. For more details, see “Image Types” in the *Supplementary Information* section of the manual.
- See a more detailed preview image (after step 7)
Go to the Preview window, highlight the scan job you wish to see in detail, and click the *Prescan* button. For more details, see “Overview and Prescan” in the *Basic Setup and Features* section of the manual.
- Fine-tune the preview image with image processing options (after step 7)
Go to the Preview window, and select the desired image-processing option from the *Correction* menu. Alternatively, you can go to the Settings window and click on an image processing button. For more details, see “Advanced Image Correction” in the *Basic Setup and Features* section and *Supplementary Information* section of the manual.

Scanning and Displaying an Image on a 640 x 480 monitor



How to Do Multiple Scan Jobs

Oftentimes, you will need to scan several images at a time or find yourself wanting to scan multiple jobs to save time. The sample scenario below shows how this can be done.

- 1 Place the images to be scanned on your scanner.
- 2 Go to the Preview window, click the *Scan Material* icon, and choose the correct scan material type.
- 3 In the Preferences menu, choose *More*, then check the *Smoked Glass* option. This feature will help you distinguish the different scan jobs created, especially if each one is of a different image type (RGB color, grayscale; shown in example below).
- 4 Click the *Overview* button to start an overview. The images will appear in the Preview window.
- 5 If the Scan Job window is not open, go to the View menu and choose *Show Scan Job window*.
- 6 Create the other scan jobs that you need. To do this, use the *Duplicate* or *New* button, or *Shift+Drag* the current scan frame to form new ones. For more details, see “Using the Batch Scan Feature” in the *Supplementary Information* section of the manual.
- 7 Define the settings for each scan job. To do this, highlight the scan job title in the Scan Job window, then specify the appropriate settings (type, resolution, etc.) in the Settings window for that scan job.
- 8 If you like what you see in the Preview window, click the *Scan* button to start scanning.

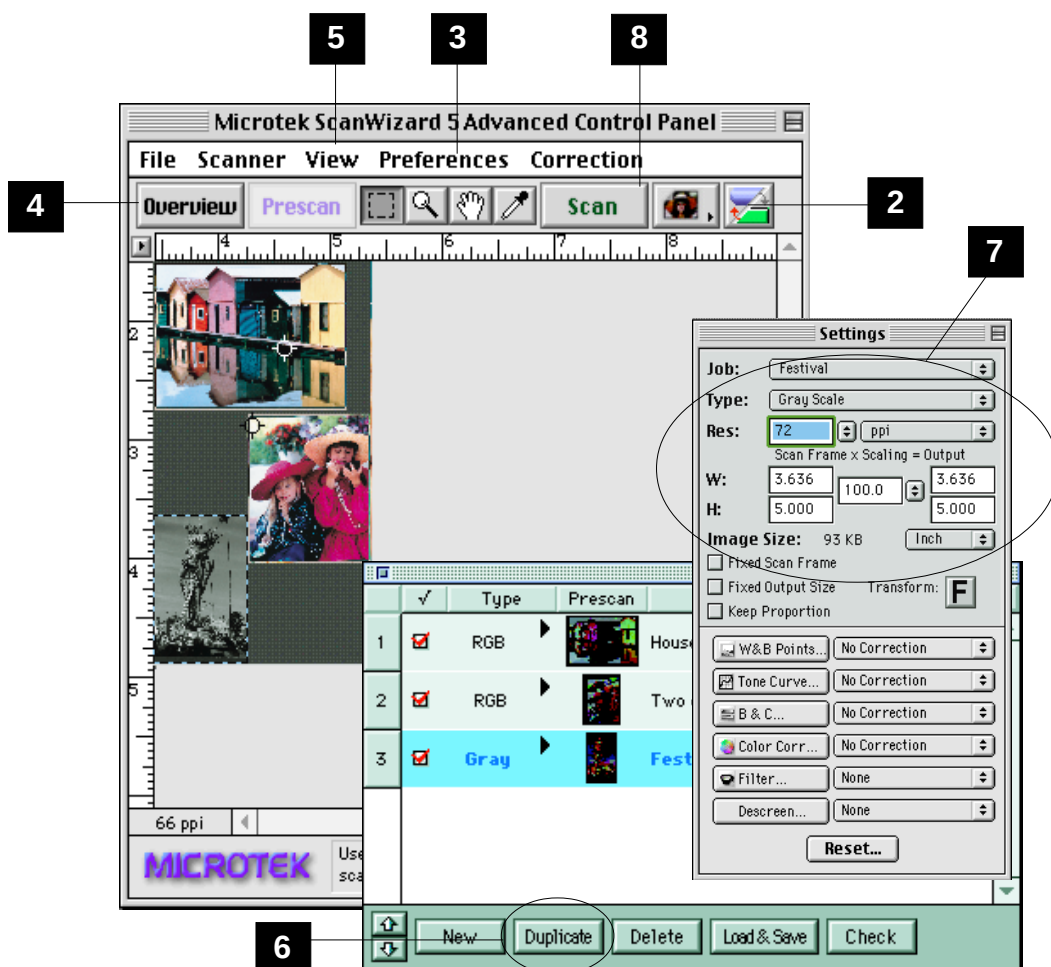
If you want to.... Before the Final Scan

- Select an output image type (after step 7)
Go to the Settings window, and from the *Type* box, choose the appropriate image type for each scan job. For more details, see “Image Types” in the *Supplementary Information* section of the manual.
- Specify output dimensions (after step 7)
Go to the Settings window, and enter the desired *output dimensions* (width and height) in the output dimension edit boxes for each scan job. The scan frame may change slightly, and you may want to go back to the Preview window to move the scan frame and enclose the area you want. For more details, see “Scan Frame, Scaling, and Output” in the *Supplementary Information* section of the manual.
- Change output image resolution (before step 8)
Go to the Settings window, and enter the resolution value in the *Resolution* edit box for each scan job.
- See a more detailed preview image or do multiple prescans (after step 7)
Go to the Preview window, highlight the scan job you wish to see in detail, and click the *Prescan* button. You can also do multiple prescans if you have multiple scan jobs. Simply choose all the

scan jobs in the Scan Job window, then click the *Prescan* button. To view the various prescan images, go to the View menu and switch among the different views possible.

- Fine-tune the preview image with image processing options (after step 7)
Go to the Preview window, and select the desired image-processing option for each scan job from the *Correction* menu. Alternatively, you can go to the Settings window and click on an image processing button; the Advanced Image Correction dialog box will then appear. For more details, see “Advanced Image Correction” in the *Basic Setup and Features* section and *Supplementary Information* section of the manual.

Doing multiple scan jobs



Supplementary Information

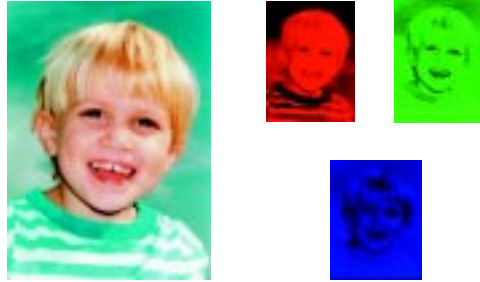
- Image Types
- Scan Frame, Scaling, and Output
- Using Advanced Image Correction
- Using the Information Window
- Using the Scan Job Window
- Color Matching for Advanced Users
- Using the Scanner Driver Manager

Image Types

ScanWizard 5 allows direct scanning in the following color spaces described below. The desired color space in ScanWizard 5 can be selected in the *Type* box in the Settings window.

RGB Color:

RGB (Red, Green, and Blue) images use three colors to reproduce up to 68.7 billion colors. Because scanners and monitors are RGB devices, the RGB color space is the most commonly used space for capturing and displaying images. ScanWizard 5 offers standard RGB and 48-bit RGB color selection, with the 48-bit option available for Microtek professional pre-press scanners.



RGB color: 622K

Web / Internet Colors:

This mode is useful for displaying images on the Web or Internet. Output for the Web / Internet color mode in ScanWizard 5 is 8-bit, 256 indexed color images.

256 Colors (Default) / 256 Colors (Custom)

These are single-channel images (8 bits per pixel) that use a color lookup table containing up to 256 colors. The file size is smaller for images in this mode. As an initial setting, selecting 256 Colors (Default) uses an *Adaptive* palette with *Diffusion*. If the 256 Colors (Custom) option is selected, the dialog box below appears.



Indexed color: 208K



- **Palette:** The Palette option lets you choose the method for creating the color palette table. *Uniform* uses a 6-6-6 fixed color palette table. *Adaptive* (default) creates a color palette table from the more commonly used areas of the color spectrum that appears in the image.
- **Dither:** The Dither option can improve the color quality of the 256-indexed color image, using a technique of mixing available colors to simulate missing colors. *None* provides no dithering. *Pattern* uses a structured pattern to simulate missing colors. *Diffusion* (default) uses the error diffusion technique to dither colors and produces the best quality for 256 colors.

Grayscale:

Grayscale images use shades of gray to simulate gradations of color or tonal values, and contain 8 bits per pixel. The Grayscale 16-bit option is provided in ScanWizard 5 for professional pre-press scanners.



Grayscale: 208K

Black-and-White Diffusion:

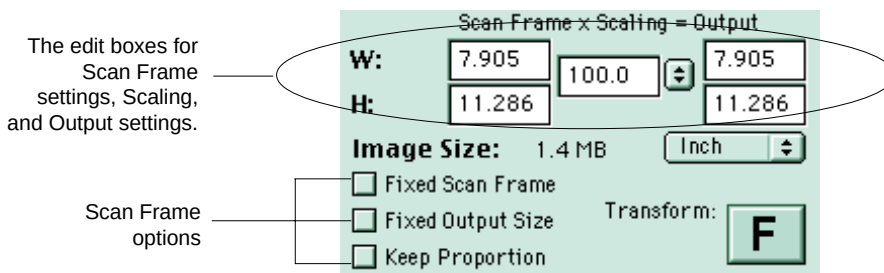
This is a single-bit black-and-white image dithered with error diffusion. The black and white pixels are arranged in a way as to “fool” the eye into seeing gray.

Line Art:

Line Art images are made up of one bit of color (black or white) per pixel. Few editing options are available in this mode, but this mode is useful for images consisting purely of black and white or even single colors, such as mechanical drawings, blueprints, or fine-line illustrations.

Scan Frame, Scaling, and Output

The input / output dimensions of your image are controlled by the Scan Frame Settings, Scaling, and the Output Settings. Together with the Scan Frame options, these fields allow you to control with precision the size of the image to be scanned or output.



In the default settings of ScanWizard 5, where none of the Scan Frame options are checked or are being used, take note of the following:

- Changing the Scan Frame settings (width or height) will change the Output settings (width or height).
- Changing the Scaling will change the Output settings (width AND height).
- Changing the Output settings (width or height) will change the Scan Frame settings (width or height).

Scan Frame settings

The Scan Frame settings (width and height) represent the area on the scan bed that you wish to scan.

To specify your settings, enter the dimensions manually in the width and height edit boxes; or use the Scan Frame tool to define or resize your scan frame. Changes made in the Preview window are automatically displayed in the Scan Frame setting edit boxes.

Scaling

Scaling lets you create larger or smaller images from the original source image. Take note of the following:

- Keep the scaling at 100% if you are outputting at the same size (e.g., a 4" x 5" original to be output at the same size).
- Reduce the scaling if you are outputting your image at a smaller size (e.g., a 4" x 5" original to be output to 2" x 2.5"). Increase the scaling if outputting at a larger size.

To choose the scaling percentage, click the up/down arrow next to the scaling box, or enter a value in the scaling edit box.

Output Settings

The Output settings (width and height) represent the dimensions of image when it is output (to either monitor or printer). If the size of the image to be output is different from the size of the original source image, adjust the scaling percentage, or manually increase / decrease the output values accordingly.

Scan Frame options

The Scan Frame options include *Fixed Scan Frame*, *Fixed Output Size*, and *Keep Proportion*.

1. Fixed Scan Frame

This option lets you lock in the settings of your scan frame, so that the width and height dimensions of the frame are always preserved no matter where you move the frame in your preview image.

If you know the exact input size for your image, or if you wish to “lock” the settings of your scan frame to a particular size, enter the Scan Frame width and height values first, then check *Fixed Scan Frame*. Your scan frame will be “fixed” at those values, so even if you move the scan frame around the preview image, the dimensions of the frame itself will remain unchanged.

2. Fixed Output Size

When the *Fixed Output Size* option is checked, the values specified for output width and height remain unchanged. If any of the input values are changed, the scaling will be adjusted automatically to preserve the output dimensions correctly.

If you know the exact output size for your image, enter the output width and height values first, then check *Fixed Output Size*. The image will then be scanned and output at the values you specify.

3. Keep Proportion

When the *Keep Proportion* option is checked, the width and height values of the image are kept in proportion despite changes made to either setting. This preserves the aspect ratio of the image.

This option is automatically checked when either “Fixed Scan Frame” or “Fixed Output Size” is selected.

Unit of Measurement

The unit of measurement lets you select your desired unit (inch, cm, mm, point, pixel). Make sure you select the correct unit of measurement before entering values for the width or height settings in the edit boxes.

Additional Notes

- When none of the Scan Frame options are checked, all five edit boxes are enabled, allowing you to edit or enter values into any of the boxes.
- The *Fixed Scan Frame* and *Fixed Output Size* options are mutually exclusive. This means that only one of the options can be checked at any time; checking another option will automatically uncheck the other one.
- When an illegal value is entered (e.g., the input width exceeds the scan frame size), the value will appear in red as a flag or warning indicating an out-of-range value.

Using Advanced Image Correction

The Advanced Image Correction (AIC) features include several powerful controls for image adjustment and enhancement. The use of the AIC was covered in an earlier section, and below is a more detailed explanation of each AIC feature.



Tone Curve

This tool allows you to either set a gamma value or completely customize the mapping of the scanned image to output image data. Setting a gamma value allows you to adjust the contrast of mid-level grays without greatly affecting the highlights and shadows of the image. Using the custom curve tool, the contrast in any area (highlights, midtones, or shadows) can be adjusted. This tool can be used either on all colors at once or on individual color channels.



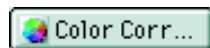
Brightness & Contrast

This tool lets you control the brightness and contrast levels of the entire image. Increasing the brightness makes all tones in the image lighter. Contrast is the range between the darkest and lightest shades in the image, and increasing the contrast makes greater separation between the darkest and lightest areas of the image.



Threshold

This tool, which applies only to Line Art images, lets you set the lowest color value of the scanned image that will appear white in the output image. All areas of the scanned image with lower color values than the threshold value will appear black in the output image. This tool also allows users to sharpen the image before the threshold value is applied.



Color Correction

This tool lets you adjust or remove a particular color cast from an image by means of the color wheel. You can also adjust saturation, or the degree of hue in the color.

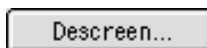


Color Correction dialog box:



Filter

This tool lets you apply filters or special effects to your images, such as blur, sharpen, edge enhancement, gaussian blur, and unsharp masking.



Descreen

This tool lets you remove the moiré patterns that result when you scan using previously printed material (such as photos taken from books or magazines), as opposed to using original photographic prints as your source material.

Custom Settings

You can also create custom settings in each Advanced Image Correction control, and then add them to the Settings window menus for quick access to those settings.

To create a custom setting:

1. Choose the desired AIC control in the Settings window, and select *Custom* from the drop-down menu on the right side.
2. When the AIC dialog box for the selected control comes up, adjust the setting the way you want it, then click the *Add to Menu* button at the bottom of the dialog box.
3. Enter a name for the Custom Setting (ex: *More Red Tint*), then click OK. The new custom setting is added to the menu.

To remove a custom setting:

1. Choose the desired AIC control in the Settings window, and select *Remove Custom Setting* from the drop-down menu on the right side.
2. When a dialog box appears, highlight the custom setting to be removed, then click the *Remove* button. The custom setting is deleted from the menu.

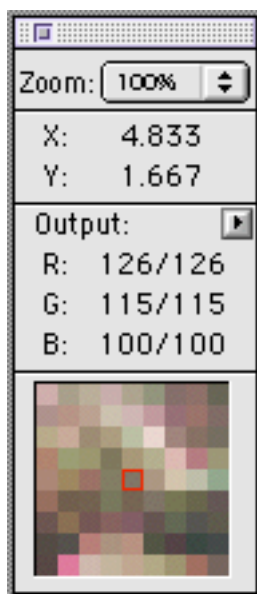
Note: To delete the custom setting, you MUST click the Remove button (not just select and click OK).

3. Click OK to close the dialog box.

Using the Information Window

The Information window is a floating window used to display color information about the Overview and Prescan buttons at precise “x” and “y” locations. The Information window can also be used to change zoom levels for varying magnification rates. Closely related to the Information window is the function of Information window, which is explained later in this section.

To view the Information window: Go to the View menu in the Preview window, and choose the Show Info window command (toggle to hide the window).



Sample Display area shows a pixelized display of the specific X/Y location. The size of the display area depends on the selection made in the Color Meter Options (discussed next section).

The Zoom Level Display shows and lets you select the levels of magnification obtainable — 100%, 200%, 400%, and 800%.

The Mouse Cursor Position displays the position of the mouse cursor on the X and Y axis of the image.

The Color Input Meter displays the input (density) pixel values at the specific X/Y location. Take note of the following:

- For all color image types (RGB), the density values of the raw image are displayed.
- For grayscale images, the gray (K) channel is displayed.
- For single-bit images such as line art, this section is disabled.

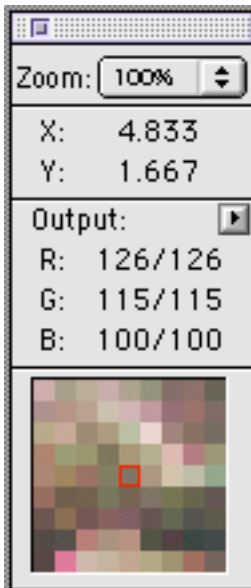
The Color Output Meter displays the output values of the pixel at the specific X/Y location. Take note of the following:

- The left part of the displayed values is the “Before” value, or the pixel value before image correction.
- The right part of the displayed values is the “After” value, or the pixel value of the final output image after all image corrections.

Color Meter Options

The Color Meter options let you choose whether you wish to display color information in numbers or percentages, and also let you choose the area of the sample size.

- If Value is chosen, the numbers represent values in the 0-to-255 pixel scale.
- If Percent is chosen, the numbers represent percentage of intensity (divided by 255).
- The Sample Size lets you choose the square size in pixels (default is 1x1), and ScanWizard 5 displays the average value of the square.



Color Meter
Options

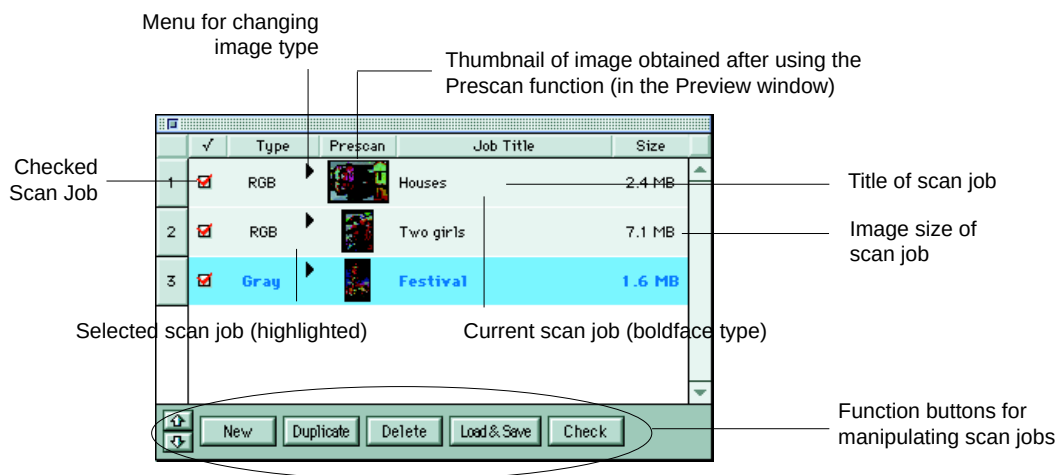
☒ Value	☐ Percent
☒ 1x1	☐ 2x2
☐ 3x3	☐ 4x4
☐ 5x5	

Sample Size display, with 1x1
option shown here (white square is
1 pixel square)

Using the Scan Job Window

The Scan Job window is a floating window that shows your scan jobs. By definition, a scan job is a scan that contains the following elements: a set of scanning parameters (shown in the Settings window); a scan frame (shown in the Preview window); and a scan job item (shown in the Scan Job window).

To view the Scan Job window, go to the View menu in the Preview window, and choose the *Show Scan Job window* command.



How to Read the Scan Job window

1. The current scan job is indicated by **bold-face** type; there can only be one current scan job. The current scan job is shown as well in the *Job* box of the Settings window.
2. The selected scan job is the highlighted item. You can have multiple selected scan jobs, which may or may not include the current scan job.
3. To make another scan job the current scan job, simply click on the job in the scan job list. The contents of the Settings window and the current scan frame will be updated accordingly, showing you the settings and scan frame of the new current scan job.
4. A scan job can be checked or unchecked, and only checked jobs are scanned when you click the Scan button in the Preview window. The check box is a toggle for checking / unchecking a scan job, and you can also use the *Check* button.
5. To change the order of scan jobs in the window, click on the *Up / Down arrows*, or simply highlight the scan job and move it up or down the list.
6. To edit a scan job title, highlight the scan job and hold down the mouse. The title will be ready for editing, and simply type over the new name.

Multiple Job Selections

The function buttons at the bottom of the Scan Job window (except the New and Load / Save buttons) can be used for multiple job selections.

For example, you can select multiple scan jobs and then click the Delete button to remove all the jobs simultaneously. To select multiple scan jobs, press the *Shift* key and click on the jobs to be selected.

Adding a New Scan Job

1. Click on the *New* button.
2. When a text box appears, accept the default name or enter a name for the new scan job.
3. Define the scan frame in the Preview window for the new scan job.
4. In the Settings window, specify the settings for the new scan job.

With the creation of a new scan job, the new scan job becomes the current scan job.

Duplicating a Scan Job

1. From the list of scan jobs available, select the scan job(s) to be duplicated
2. Click on the *Duplicate* button. The selected scan job(s) will be duplicated. The Duplicate function is very useful when scanning several images at the same settings (a batch scan).

Removing a Scan Job

To delete a scan job, select the scan job to be removed, then click on the *Delete* button.

Loading and Saving Scan Jobs

This feature lets you save scan jobs, which you can then load when necessary. The idea of saving and loading scan jobs has important applications, especially for scanners with different templates or “trays”. Saving / loading scan jobs is also useful if you consistently work in a specific format, scan the same kind of images, or if the scanner is used by several users who have their own sets of jobs.

If your scanner has several trays, for instance, you may wish to create a scan job for each “tray”—for example, one for your 4”x5” transparencies and another for your 35mm positives. You can also create scan jobs to fit the needs of your users, with User A having Scan Job Folder 1 for example, and User B having Scan Job Folder 2.

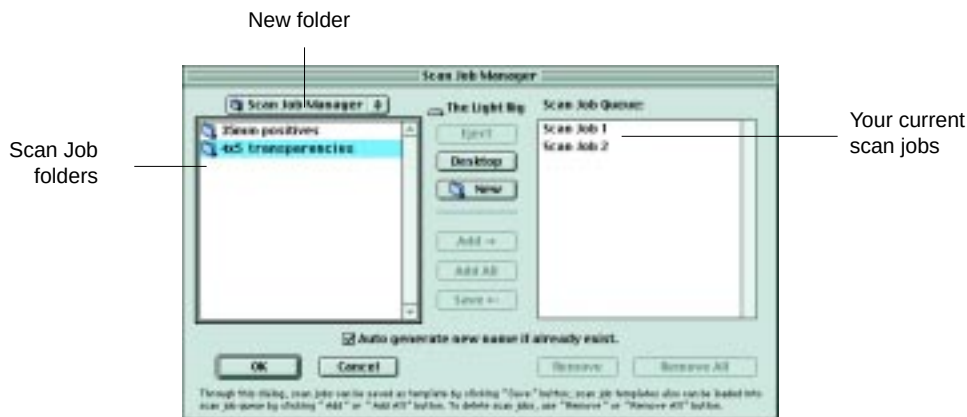
To use the Load / Save feature:

1. Click on the *Load / Save* button in the Scan Job window.
2. When a dialog box appears, go to the folder of your choice . The sample dialog box below shows the following:

- The left-hand side of the dialog box shows your scan job folders. In this example, a folder called *Scan Job Manager* has been created. Inside the folder are individual folders —*35mm positives* and *4x5 transparencies*.
- On the right-hand side of the dialog box are your current scan jobs — *Scan Job 1* and *Scan Job 2*.

Note:

If you click the OK button and there are no scan jobs on the right-hand side, a dialog box will appear. You will then be asked if you wish ScanWizard 5 to automatically create a scan job with default settings for you.



To add the contents of a folder to the scan job list:

1. Select the folder on the left-hand side, and double-click on it.
2. Click the *Add* button in the middle column of the dialog box. All the contents inside the folder are added to the scan job list on the right-hand side.

To save scan jobs to a folder:

1. Select a folder on the left-hand side, and double-click on the folder.
2. Highlight the scan job to be added on the right-hand side.
3. Click the *Save* button in the middle column of the dialog box. The selected scan job is saved to your selected folder.

To remove scan job(s):

1. Highlight the scan job(s) to be removed.
2. Click the *Remove* or *Remove All* button at the bottom of the dialog box.

To remove a folder:

Folders cannot be removed from the level of the Scan Job Manager or from the level of ScanWizard 5. To remove folders, you will need to go to the level of your Macintosh operating system and then delete the folders by moving them to the Trash.

To close the dialog box: Click the OK button at the bottom of the dialog box.

Using the Scanner Driver Manager feature

The Scanner Driver Manager keeps track of the scanners being used on your system and the SCSI ID numbers that they occupy. By keeping a record of this information, it allows ScanWizard 5 to start up more quickly, as there is no need to look for other scanners.

To add a scanner:

Follow the hardware installation instructions for connecting a scanner to your system. Then you can use the Scanner Driver Manager in ScanWizard 5 to add or include the connected scanner to your scanner list.

1. Go to the *Scanner* menu in the Preview window, and choose *Scanner Driver Manager*. A dialog box will appear showing the connected scanner and the corresponding SCSI ID number.
2. Click the *Find Scanners* button. In case you have added new scanners, the new scanners will be appended to the scanner list. If a scanner is not detected (not turned on, not ready, or removed from the system), the model will not be removed from the list but will have a question mark before it. See the next section for details on how to remove a scanner.
3. Click the *Close* button to close the dialog box.

To remove a scanner from your scanner list:

1. Disconnect the scanner from your system to remove it physically.
2. Go to the *Scanner* menu in the Preview window, and choose *Scanner Driver Manager*.
3. When the dialog box appears, click the *Update List* button. The removed scanner will have a question mark before it.
4. Click the *Remove* button to delete the scanner model from your scanner list.
5. Click the *Close* button to close the dialog box



Color Matching for Advanced Users

This section contains important information on further steps you need to take to achieve color matching across your devices. The procedures to be performed include monitor calibration and how to set up ScanWizard 5 with the Apple ColorSync™ system and the Adobe Photoshop software. Some recommendations are also given in order to achieve color matching across devices. For more detailed information on the ColorSync or Adobe Photoshop functions covered in this section, refer to the respective user guides of those programs.

Calibrating your monitor

Proper monitor calibration is important for achieving higher precision in color matching. Monitor ICC profiles may be created specifically for your monitor by calibrating your monitor through the following utilities:

- ColorSync 2.5 Monitors & Sound Control Panel Calibration function
- Adobe Gamma utility, from Adobe Photoshop 5.0
- Any third-party calibration programs or hardware calibrator

Setting up the System (Monitor) Profile using ColorSync

ColorSync is Apple's industry-standard color matching system. The notes below pertain to configuring ColorSync to ensure that it works properly with ScanWizard 5.

If you have ColorSync 2.1.2 or earlier, do the following:

1. In the ColorSync System Profile control panel, select your desired System Profile settings.
2. In the Monitors & Sound control panel, set the Gamma to "Uncorrected Gamma".

In addition, make sure you disable or remove any utilities or third-party control panels that alter monitor display. Your System Profile is the profile describing the monitor you are using.

If you have ColorSync 2.5, do the following in the exact order below:

1. Open the Monitors & Sound control panel to select your desired profile in the Monitor Profile list box.
2. Open the ColorSync Control Panel to verify the desired monitor profile as the System Profile.

The settings in these two control panels should be the same. If you select a profile in Monitors & Sound, your ColorSync System Profile will change accordingly.

In addition, make sure you disable or remove any utilities or third-party control panels that alter monitor display.

Using Adobe Photoshop 5.0

A. Adobe Photoshop 5.0 Setup:

1. In the *File / Color Settings / RGB* dialog box, select your desired RGB workspace.
2. Check and enable the *Display using Monitor Compensation* check box. Take note of the following:
 - Make sure that the selected RGB workspace in Photoshop matches ScanWizard 5's RGB Destination selection. This way, the scanned images shown in Photoshop will match the preview image that was shown in ScanWizard 5. Do not change your monitor profile (i.e., ColorSync System Profile) in the middle of operating ScanWizard 5. If you want to change the monitor profile, do it after exiting ScanWizard 5.
 - Take note that it is not desirable to scan in raw data and then perform ColorSync data conversion using the ColorSync plug-in or the *Image / Mode / Profile to Profile...* conversion in Photoshop 5.0.

Note: Since Photoshop 5.0 allows users to customize their own color space as well as select from a few built-in color spaces (such as sRGB, Apple RGB, CIE RGB, etc.), you may click "Save" in the RGB Setup dialog box to save the current Photoshop RGB workspace as an ICC ColorSync profile. This can then be selected in ScanWizard 5. Please note that when you save the Photoshop RGB profile, the file name you specify may not be the same as the profile selection you see in ScanWizard 5's RGB Destination pop-up menu (where the profile information string is shown). For example, if you save "Photoshop sRGB" as a profile, it will appear as "sRGB IEC61966-2.1" in ScanWizard 5's pop-up menu. If you are not sure about the profile you want, click the "Load" button to load

the profile by file name directly.

For more information on Photoshop's color management features, visit Adobe's site on the Internet <http://www.Adobe.com>.

B. ScanWizard 5 Setup:

1. Go to the *Preferences / CMS Setup* dialog box. Check and see that the monitor selection is the same as that in the *ColorSync System Profile* selection (your current monitor setup). If you need to change your monitor, do this in the ColorSync Control Panel.
2. Make sure that the *Display using monitor compensation* check box is checked.
3. For RGB destination settings, select your desired profiles. These selections specify ScanWizard 5's output color space for RGB mages, respectively.
4. Make sure the RGB destination setting matches Photoshop 5.0's RGB Setting in the RGB Setup dialog box, respectively.
5. To enable RGB color matching, make sure the *RGB Color Matching* check box is checked. Otherwise, raw RGB image data will be scanned. It is not desirable to scan in raw data and then perform ColorSync data conversion using the ColorSync plug-in or *Image / Mode / Profile to Profile...* conversion in Photoshop 5.0.

Using Adobe Photoshop 4.0

A. Adobe Photoshop 4.0 Setup:

Photoshop 4.0 does not have color-management capabilities for RGB images. In Photoshop 4.0, RGB data is simply “dumped” or transferred to the monitor. As a result, the colors may appear to be different in Photoshop 4.0 compared to ScanWizard 5, regardless of the ColorSync version that you are using.

To display colors consistently on both Photoshop 4.0 and ScanWizard 5, make sure that the “Display using monitor compensation” check box is NOT checked in the CMS Setup dialog box in ScanWizard 5.

B. ScanWizard 5 Setup:

1. Go to the *Preferences / CMS Setup* dialog box. Check and see that the monitor selection is the same as that in the *ColorSync System Profile* selection (your current monitor setup). If you need to change your monitor, do this in the ColorSync Control Panel.
2. Make sure that the *Display using monitor compensation* check box is NOT checked.
3. To enable RGB color matching, make sure the *RGB Color Matching* check box is checked. Otherwise, raw RGB image data will be scanned. It is not desirable to scan in raw data and then perform ColorSync data conversion.

Note that it is not desirable to convert the image if you have previously chosen to scan as raw data; the result will not be what you expect. Always let ScanWizard 5 perform the color matching for you.

5 Reference

The Interface

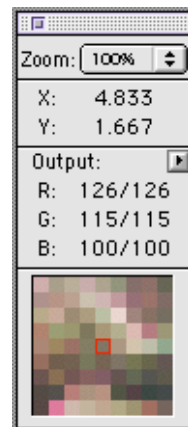
ScanWizard 5 consists of four major windows: Preview, Settings, Information, and Scan Job. The Preview, Settings, and Scan Job windows appear automatically after ScanWizard 5 is started up. The Information window, however, is hidden, and to see it, go to the View menu in the Preview window and click the *Show Info Window* command.



Settings window

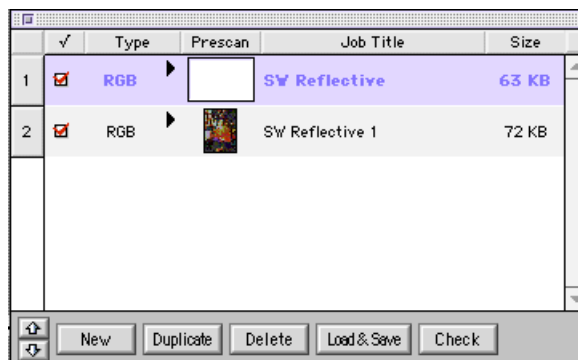


Preview window



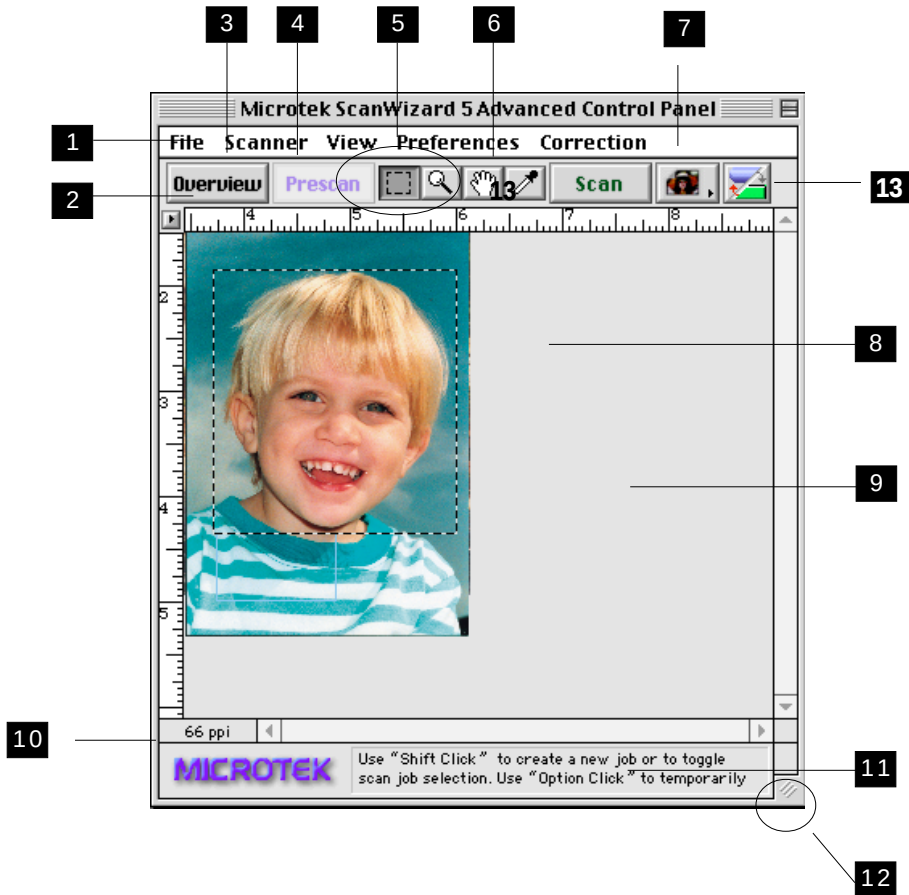
Information window

Scan Job window



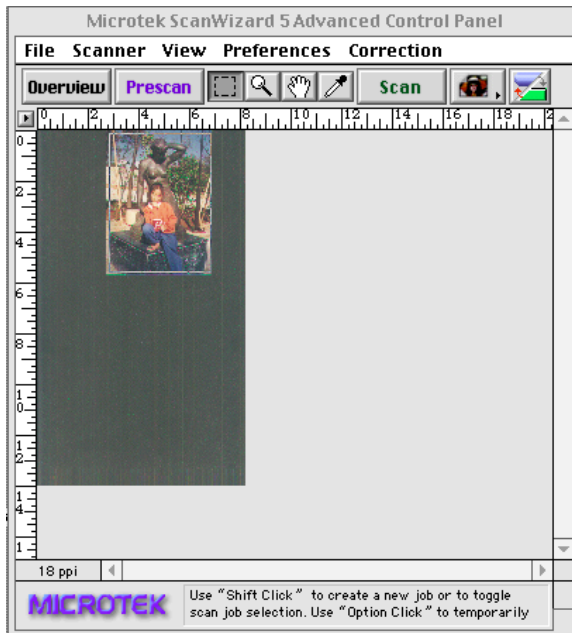
The Preview Window

The Preview window is the most prominent window of the four major windows, and it includes the various commands and tools for controlling the scanner and for showing your preview image.



- 1 The *Menu Bar* includes the different menus for controlling and operating the scanner.
- 2 The *Unit of measurement* provides the following options: inch, cm, mm, point, pixel.
- 3 The *Overview* button previews a specific area of the scan bed.
- 4 The *Prescan* button previews one or more high-resolution images of the area(s) selected by the Scan Frame tool.
- 5 The *Toolbar* selects actions to be performed on the Overview or Prescan image. The Toolbar includes the Scan Frame, Zoom, Pane, and Info Window.
- 6 The *Scan* button starts the final scanning process.
- 7 The *Scan Material icon* shows your scan material — Reflective (photos and prints), Positive Transparency, or Negative Film.
- 8 The *Preview image* or *Overview image* appears when you click the Preview and Overview buttons, respectively.
- 9 The *Preview Area* is where the overview or prescan image appears after you click the Overview or Prescan button.
- 10 The resolution of the Prescan or Overview image is 40 ppi and is shown above the Microtek logo.
- 11 The *Status Bar* gives useful tips relating to the selected tool in the Toolbar.
- 12 Drag this corner to *resize* your Preview window. The size of the preview image will not change until a new Overview is done.
- 13 The Switch button toggles the software between Standard Control Panel and Advanced Control Panel.

The Menu Bar



File

Quit ⌘Q

Scanner

✓ SCSI: ScanMaker III, Bus 0, ID 6

Get Current Scanner Info

Scanner Probe...

Scanner Driver Manager...

Scanner Control...

View

✓ Overview Image

Resize Window To Fit ⌘R

Bring Settings Window to Front

Hide Info Window

Hide Scan Job Window

About...

Preferences

Scan Material ▶

Color Matching Setup...

White/Black Point Setup...

Cursor Auxiliary Lines ▶

Overview Setup...

Prescan Setup...

Invert

Retain Scan Module After Scan
More...

Correction

White/Black Points...

Tone Curve...

Brightness & Contrast...

Color Correction...

Filter...

Descreen...

The File Menu

The File Menu contains only one submenu -- the Quit command.

Quit

This command lets you exit ScanWizard 5.

The Scanner Menu

The Scanner Menu lets you do the following:

- Show your scanner model or select a scanner if you have multiple scanners
- Get information about your scanner
- Get information about the SCSI chain
- Exit ScanWizard 5

Scanner Model

The top of the scanner menu displays the scanner model you're using and its SCSI bus and ID. If you have multiple scanners on your system, all the scanners are shown with their respective SCSI bus, IDs, and the current scanner in use is indicated by a check.

Only one scanner can be accessed at a time. To switch among various scanners, select the scanner to be used.

Get Current Scanner Info

This command provides information about your current scanner, and a dialog box appears showing the scanner model, SCSI bus, SCSI ID number, firmware version, and driver information.



Get Scanner Probe Info

This command lets you see the SCSI devices on your SCSI chain and the SCSI ID number of the devices.

Click here to
update SCSI
device
information



SCSI devices
are shown
with their
SCSI ID
numbers

To use the Get SCSI Chain Info feature:

1. Choose the *Get SCSI Chain Info* command. The SCSI Check dialog box will appear.
2. If your scanner does not show, click the *Probe* button. Make sure your scanner is connected and turned on.
3. Check the numbered box corresponding to the SCSI ID of your scanner or scanners. Click OK to close the dialog box.

Scanner Driver Manager

The Scanner Driver Manager keeps track of the scanners being used on your system and the SCSI bus / ID numbers occupied by the scanners. By keeping a record of this information, the Scanner Driver Manager allows ScanWizard 5 to start up more quickly, as there is no need to look for devices on the other SCSI buses.

To add a scanner:

Follow the hardware installation instructions for connecting a scanner to your system. Then you can use the Scanner Driver Manager in ScanWizard 5 to add or include the connected scanner to your scanner list.

1. Go to the *Scanner* menu in the Preview window, and choose *Scanner Driver Manager*. A dialog box will appear showing the connected scanner and the corresponding SCSI bus / ID number.
2. Click the *Find Scanners* button. In case you have added new scanners, the newly found scanners will be appended to the scanner list. If a scanner on the list is not detected (not turned on, not ready, or removed from the system), the model will not be removed from the list but will have a question mark before it. See below for details on how to remove a scanner.
3. Click the *Close* button to close the dialog box.



To remove a scanner from your scanner list:

1. Go to the *Scanner* menu in the Preview window, and choose *Scanner Driver Manager*.
2. Click the *Remove* button to delete the scanner model from your scanner list.
3. Click the *Close* button to close the dialog box.

Update Scanner Menu

This command refreshes the SCSI buses and updates the Scanner menu with the current scanner list.

This is most useful when ScanWizard 5 is brought up but one of the scanners is not turned on or has not become ready.

Only the current scanner list is used, and ScanWizard 5 will not find or add any new scanners to the scanner list. This is a short-cut command without invoking the Scanner Driver Manager.

The View Menu

The View Menu lets you do the following:

- Select an overview or prescan view of an image
- Resize the preview window to fit current preview window
- Bring the Settings window to the front
- Show or hide the Information and Scan Job
- Show the ScanWizard 5 splash screen

Overview Image and Prescan Image

These commands select the image obtained with the Overview and Prescan buttons, respectively, and allow you to switch between both viewing modes.

The dimensions of the Overview image and Prescan image are controlled by the Overview Setup command and the Prescan Setup command, respectively. For more details, see these commands under the Preferences menu.



Overview viewing mode



Prescan viewing mode

To obtain the Overview image:

With the image(s) placed on your scanner, click the Overview button.

To obtain the Prescan image:

1. Click the Scan Frame tool. 
2. Select the area to be prescanned by drawing a frame around the area in the Overview image.
3. Click the Prescan button.

To obtain multiple Prescan images:

1. Define your scan jobs in the scan job window (see the scan job window section for more details).
2. To select multiple scan jobs, press the *Shift* key and click on the jobs to be selected in the Scan Job or Preview window.
3. Click the Prescan button in the Preview window. Multiple prescans are created in the process, corresponding to the number of scan jobs defined, and you can then switch among the various prescan images.

Resize Window to Fit

This command resizes the Preview window, which you may find helpful for conserving space on your desktop monitor especially after enlarging the Preview window.



Before resizing

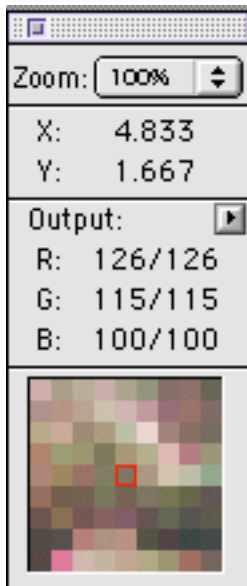


After resizing

To use this feature:

Choose the command *Resize window to Fit*. You can also do this by pressing Command + R (the Apple Command and R keys) simultaneously.

To verify the zoom level, open the Information window (choose *Show Info Window* command from the View menu), and look up the zoom level.



Zoom
level
shown
here

Bring Settings Window to Front

This command brings the Settings window to the forefront, which is useful if you have the Settings window hidden behind other windows or if you have expanded your Preview window such that it covers the Settings window.

Show / Hide ... Window commands

These commands allow you to toggle between showing or hiding the Settings, Scan Job and Information windows of ScanWizard 5, as the case may be.

About

This command displays the ScanWizard 5 splash screen and shows program version and copyright information.



The Preferences Menu

The Preferences menu lets you do the following:

- Choose the desired scan material
- Specify color matching parameters
- Set up white / black points
- Show / hide cursor auxiliary lines to help you with alignment of the scan frame
- Control the size of your preview window
- Keep your scan module after you finish scanning
- Create effects like invert and mirror
- Activates the smoked glass background effect to help distinguish the active scan frame(s)
- Set other options, such as specifying a working directory for files

Scan Material

This command allows you to select your scan material — whether it is *Reflective* (photographs and prints), *Positive Transparency*, or *Negative Film*.

If you are using a dual-bed scanner such as the ArtixScan 2020 or ScanMaker 4, all three scan material options will be available for you to choose from.

If you are using a flatbed scanner, the Positive Transparency and Negative Film options will not be available for selection unless you use a Transparency Media Adapter with the scanner, which will then let you scan transparencies and film media.

To select the scan material:

1. Choose the Scan Material command in the Preferences menu. From the submenu that appears, select your scan material.
2. Alternatively, you can also click the Scan Material icon (beside the Scan button), and then choose the correct scan material from the drop-down menu that appears.



The appearance of the Scan Material icon will change, according to your choice.



Appearance of the Scan Material icon for Reflective materials.



Appearance of the Scan Material icon for Positive Transparency. Note the "perforations" on the top and bottom to distinguish this from the Reflective icon.



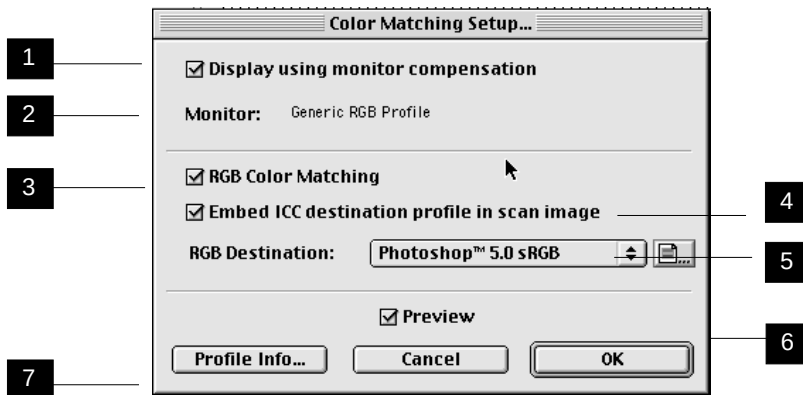
Appearance of the Scan Material icon for Negative Film.

Color Matching

Color Matching is an important feature of ScanWizard 5 that ensures color is displayed consistently — from the initial input stage when an image is captured by the scanner, to the final output stage when the image is output to your monitor or printer (through either the Kodak CMS or Apple ColorSync™ technology). Color matching was developed to allow an equivalent "mapping" of colors from one device or from one color space to another, ensuring that no major color shifts occur in the transference process.

To use the ScanWizard 5 color matching function:

1. Set up the Kodak CMS and Apple ColorSync features correctly at the time that ScanWizard 5 is installed. For more information on this procedure, refer to your Kodak or Apple system documentation.
2. The first time you launch ScanWizard 5, you will be prompted to set up color matching for your scanner. You may access the color matching parameters for ScanWizard 5 at any time in the future, however, by choosing the *Color Matching Setup* command in the Preferences menu. ScanWizard 5 includes several industry-standard ICC color profiles



- 1 Display using monitor compensation: This box pertains to how your monitor displays color, relative to the RGB Destination color space. It is best to have this box checked so that there are no unexpected color shifts between your selected RGB Destination space and your monitor. See the Appendix for more information.

- 2 Monitor: The monitor selection shown here is the monitor set in your Apple ColorSync Control Panel.

To verify this information, go to your Apple Menu, select Control Panel, then Color Sync. Your selected monitor will be shown, which should be the same as the entry in this dialog box.

This setting only affects how the image is shown on the screen — not the final scanned image.

- 3 RGB Color Matching: This box should generally be checked unless you want to scan raw color data, in which case you lose the compensatory effects of the Color Matching system.

Note: It is not desirable to scan in raw data and then perform ColorSync data conversion, which will not generate the correct CMS effect.

- 4 (to be added)

- 5 RGB Destination: This feature lets you select the ICC profile in the ColorSync profile folder for outputting images to the RGB color space.

You may select from monitor, RGB printer (e.g., inkjet printers), a special color space, or the Adobe Photoshop 5.0 internal color space profile. For Photoshop 5.0 users, this should always be the same as your RGB

working space as defined in the Photoshop 5.0 RGB Setup.

A large number of RGB profiles is supplied by ScanWizard 5. If you do not see the ICC profile for your monitor or RGB device, contact your device manufacturer. To load a specific ICC profile from a different folder, click the RGB profile button and select the profile.

- 6 Preview check box: This immediately updates the Preview window image when a new color profile is selected. This will reflect colors consistent with the newly selected profile.
- 7 Profile Information button: This lets you get information on currently used ICC profiles.

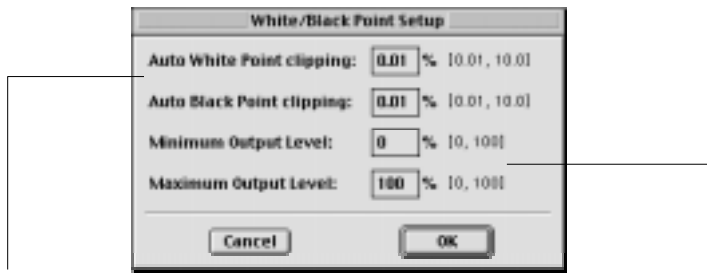
Note: For advanced users who wish to know more about color matching, refer to the Appendix at the end of the manual.

White / Black Point Setup

This command provides you with advanced controls for setting the clipping points for your white and black points, as well as determining the output levels for the white/black points on your printer.

To use this feature:

1. Choose the White/Black Points Setup command from the Preferences menu.
2. As an alternative, you can click this command from the Color Correction Menu. This is also the same thing as clicking the White/Black points tool in the Settings window and then clicking the Setup button from the dialog box that comes up. When the dialog box comes up, specify your preferences.



Auto White / Black Point Clipping

The Auto White Point clipping and Auto Black Point clipping fields allow you to specify the percentage by which the white and black points, respectively, can be clipped from the histogram. The clipping is done after you click the Auto button in the White/Black Points dialog box.

For example, if you specify 10 percent as your White Point clipping value and then click the Auto button, the white point on the histogram is adjusted so that 10 percent of the color information is "clipped" or ignored. The resulting 90 percent information leftover is then remapped, resulting in an image with less highlight detail.

The same principle above applies to the Auto Black Point clipping feature, which governs the black point for shadows.

These fields are normally used by more advanced users, and the features are taken care of automatically if you have set up Color Matching correctly early on in ScanWizard 5.

Minimum / Maximum Output Level

The Minimum Output Level lets you set the minimum output level of the black point. The higher the percentage value, the lower the contrast will be.

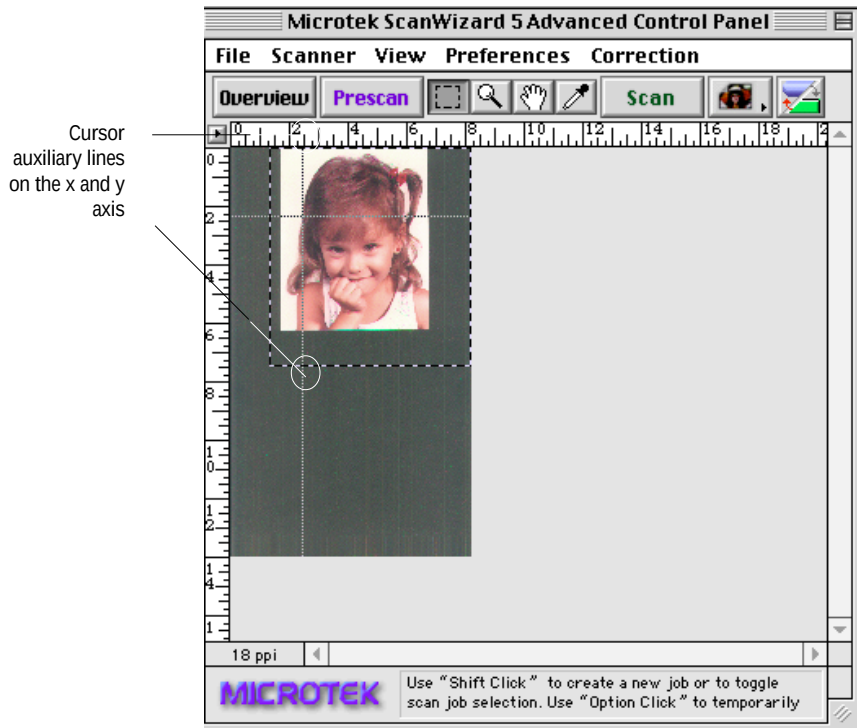
The Maximum Output Level lets you set the output level of the white point. The lower the percentage value, the lower the contrast will be.

Cursor Auxiliary Lines

This command allows you to show or hide cursor auxiliary lines to help you define a scan frame or measurement off the rulers more precisely. The cursor auxiliary lines show only when the Scan Frame tool is selected.

To use this feature:

1. Choose the Cursor Auxiliary Lines command in the Preferences menu. From the submenu that appears, select how the cursor lines will appear.
 - On both the x (horizontal) and y (vertical) axis
 - On the x axis only
 - On the y axis only
 - None (no cursor lines)
2. Click the Scan Frame tool. When you move the pointer to the image, the cursor auxiliary lines will appear.

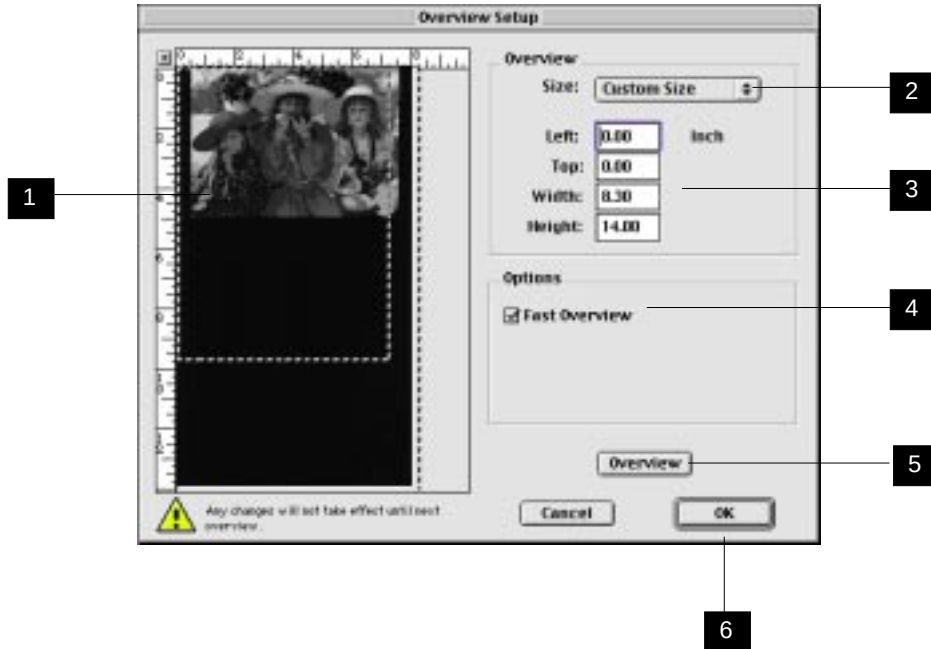


Overview Setup

This command lets you set the area you want to overview off the scanner bed and provides some overview options as well.

By default, ScanWizard 5 overviews the maximum scan area as determined by your scanner model's bed size. You can, however, customize the overview area so that the scanner consistently overviews only the specific dimensions you have in mind. For example, if your maximum scan area is 8.5" x 14", you can customize the overview area so that it consistently overviews, say, 4" x 8" of the bed size.

As a rule of thumb, it is best to use the default maximum settings. You should change the overview area only if your subsequent overview is too large to be shown in entirety, or too small for reliable previewing. A smaller overview area will increase the overview resolution for clearer image viewing. You may also wish to change the size of your overview to improve performance. Generally, a shorter overview time results from the scanner motor travelling at a lesser distance.



- 1 Overview Area: This represents the scan bed size. The dimensions of this overview area, however, will depend on the size as stipulated by #2 and #3 below.
- 2 Size: This option lets you choose whether to do an overview of the *Maximum* area or a *Custom* area.
 - *Maximum* refers to the maximum area that can be overviewed. The dimensions of the maximum area vary, depending on your scanner model from 8.5" x 11.7 to 8.5" x 14". Take note that transmissive scan areas are smaller.
 - *Custom* refers to the area as determined by the dimensions you specify in #3 below.
- 3 Left, Top, Width, Height: These edit boxes let you specify the dimensions of the overview area.
 - *Top* and *Left* refer to the starting points of the overview area on the X and Y coordinates.
 - *Width* is the expanse of the overview area. *Height* is the depth of the overview area.
- 4 Overview Option: *Fast Overview* speeds up the overview process. .
- 5 Overview button: This button lets you do a new overview and is helpful if you have specified custom settings or changed the dimensions.
- 6 OK: Clicking this button accepts the settings and dimensions specified in the dialog box.

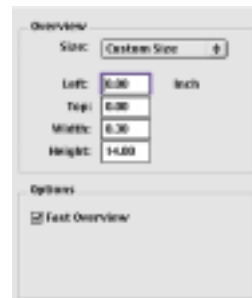
To change the size of your preview area:

1. Go to the *Preferences* menu in the Preview window, and choose *Overview Setup*.
2. When the Overview Setup dialog box appears, click the *Overview* button to preview the entire bed. This will help you determine how you wish to resize the overview area.
3. To change the overview area, you can:
 - Drag a rectangle that approximates the size of the overview that you wish; or
 - Enter the appropriate values for the *Top*, *Left*, *Width*, and *Height* edit boxes. The new dimensions will take effect on the next Overview — when you click the Overview button again in the Preview window (not the Overview button in the Overview Setup dialog box).

A



B



Prescan Setup

The Prescan Setup command lets you determine the margin surrounding the prescan image and the size of the prescan image.

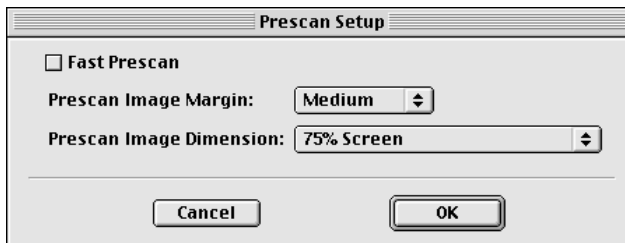
To change the margin or size of the prescan image:

1. Go to the *Preferences* menu in the Preview window, and choose *Prescan Setup*.
2. When the Prescan Setup dialog box appears, specify your choices.
 - Prescan Image Margin: The options here let you specify how wide or narrow the margin around the scan frame is in the prescan image.

This is helpful because selecting the exact scan frame (through the Scan Frame tool) can never be a completely accurate process, and what appears to have been selected by the scan frame when you view the image in the lower-resolution overview may or may not actually include the portion you wish. The margin — depending on how wide or narrow it is — can then provide a berth or allowance for extending the boundaries of the scan frame around the prescan image. Margin options include minimal, small, medium, and large.

- Prescan Image Dimension: This option lets you specify how large the prescan image will be: Full screen, 75%, 50%, or fit current preview window.

This option allows you to either shrink the preview window to maximize the use of space on your monitor, or to expand the view of the image to full screen to see it in greater detail. The larger the size, the higher the prescan resolution. The maximum prescan resolution is the scanner's optical resolution.



Invert

This command inverts images of all scan jobs to negatives. Take note that all scan jobs are inverted at the same time; you cannot invert an individual scan job alone.

When an image is inverted, the brightness value of each pixel is converted to its inverse value. In the case of 24-bit images, for example, a pixel in a positive image with a value of 255 is changed to 0, and a pixel with a value of 5 is changed to 250.

To use this feature:

Choose the Invert command in the Preferences menu. A check appears next to the command when it is enabled.



Original



Invert

Retain Scan Module after Scan

This command allows you to keep the ScanWizard 5 interface running after scanning is completed and the image delivered to your image-editing software.

This way, you do not have to go back to the File-Acquire process to start ScanWizard 5 all over again.

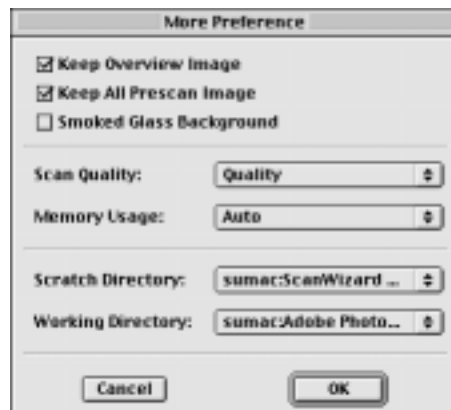
Note: This command can be used only in applications (such as Adobe Photoshop) that allow you to retain the scan module after a scan is completed. Some applications will not retain the scan module even if this option is enabled.

To use this feature:

Choose the command Retain Scan Module after Scan in the Preferences menu. A check appears next to the command when it is enabled. If you wish to see the scanned image in your image-editing software after scanning is completed, you will need to quit ScanWizard 5 to see the image.

More...

This command shows the More Preferences dialog box, where you can specify other options for ScanWizard 5.



A. Keep Overview Image

This option lets you retain the last overview image you used. The next time you start ScanWizard 5, this last preview image is again displayed in the preview window.

B. Keep All Prescan Images

This option lets you retain all prescan images if you have done several prescans, allowing you to switch among the various prescan images in the View menu. Otherwise, the image is automatically deleted when you exit ScanWizard 5.

C. Smoked Glass as Background

This option lets you apply a smoked glass background that makes your scan jobs stand out more clearly. This feature can also be used if you have multiple scan jobs in their respective image modes, and this will be shown clearly in the Preview window (example: 1 job in color, another in B&W).



Grayscale image

Smoked glass background turned on shows multiple scan jobs in their respective image modes (color or grayscale)

D. Scan Quality

This option allows you to select the image quality by controlling the scanner hardware and the maximum image processing depth.

- **Speed:** Choose this option if your primary concern during scanning is speed. Image data is delivered faster and the image data is processed in 8 bits per channel.
- **Quality:** This is the default setting. Scanned data is delivered a little slower but in high quality, and the image data is processed in 8 bits per channel.

- **Best:** This setting is available only to higher-depth scanners (10-, 12-bit, or higher). Scanned data is delivered a little slower but in high quality, and image data is processed in maximum bits per channel (i.e., 10-, 12-bit, or higher), and then converted to the desired output depth. This special operation results in the best image quality possible.

E. Memory Usage

This option controls the way ScanWizard 5 uses memory. Three options are provided:

- **Application:** ScanWizard 5 will only use the memory inside the application heap as its image buffer. Make sure you allocate a large number of memory in your application for this purpose. Otherwise, ScanWizard 5 may not have enough memory to run. Use this option only if you don't want ScanWizard 5 to use memory outside your application.
- **System:** ScanWizard 5 will use the memory in the system heap as its image buffer, and only a limited amount of memory is used in the application heap. This option is best if you have only a small memory allocation for your application but a large amount of system memory.
- **Auto:** This is the default setting. ScanWizard 5 maximizes the memory usage from both system and application, looking for memory first from the system heap and then from the application heap.

G. Scratch Directory

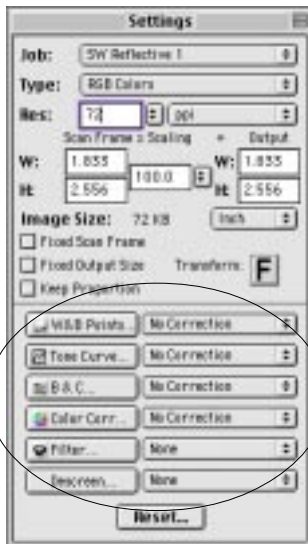
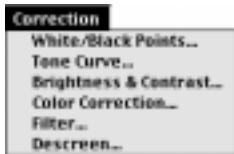
The scratch directory is the folder where ScanWizard 5 creates temporary files, with the

temporary files deleted at the end of an operation. You should change to a different folder only if the scratch directory is located in a disk volume that is too small for scanning operations. To specify a new scratch directory, choose *Other Directory...* from the menu.

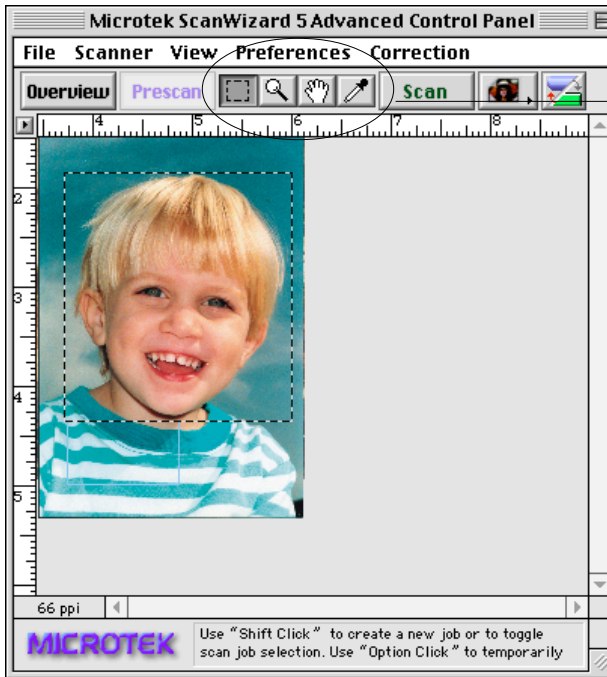
The Correction Menu

The Correction Menu lets you use the Advanced Image Correction (AIC) features of ScanWizard 5. The commands in the Correction menu correspond to the AIC buttons in the Settings window.

For more information, see the section of the manual on *Advanced Image Correction*.



The Toolbar



Scan Frame



Zoom



Pane



Info Window

Scan Frame tool

The Scan Frame tool lets you select the area to be scanned or prescanned in high resolution. You can have multiple scan frames, but only one scan frame can be current at a time; the current scan frame is indicated by a flashing marquee. Multiple scan frames can be more easily distinguished if you turn on the *Smoked Glass Background* command (in the Preferences menu).

Scan Frame tool



resize the
frame by
dragging

To use the Scan Frame tool:

1. Click the Scan Frame tool.
2. Move the pointer (now a crossbar) to the Overview image, and draw a frame enclosing the area to be selected. When you release the mouse, a flashing marquee will indicate the scan frame. To create multiple scan frames, hold down the *Shift* key and drag the mouse.
3. To resize the scan frame, drag a corner of the scan frame and resize to the desired area you want.
4. To change the position of the scan frame, drag inside the scan frame and move to a new location

Zoom tool

The Zoom tool lets you zoom in (magnify) and zoom out (reduce) your view of the image. Only your view of the preview image is changed; the actual size of the image remains unaffected.

Each click of the zoom tool magnifies or reduces by a factor of 2. Thus, the magnification levels increase from 100% to 200%, to 400%, and to the maximum 800%. When you reach the maximum magnification factor, the center of the Zoom tool will appear empty.

To zoom out (reduce), hold down the Option key and with the Zoom tool selected, click the image. A minus sign will be in the middle of the lens to indicate the image is being zoomed out.

To use the Zoom tool:

1. Click the Zoom tool.
2. Place the pointer — now a lens with a plus sign inside it — on the image and click. To reduce the view, hold down the *Option* key (the Zoom tool changing to show a minus sign inside it), and click again.



Original image



View enlarged with
Zoom tool

Pane tool

The Pane tool lets you scroll through an overview or prescan image, allowing you to move parts of the image into view quickly without using the scroll bars.

You can use the Pane tool for scrolling through zoomed-in images that were enlarged through the Zoom tool, or for scrolling through parts of an image not included completely within the frame of the preview window.

To use the Pane tool:

1. Click the Pane tool.
2. Move the pointer (now in the form of a hand) to the image. Hold down the mouse and move the Panel tool left, right, up, or down, and you will see portions of the image come into view.

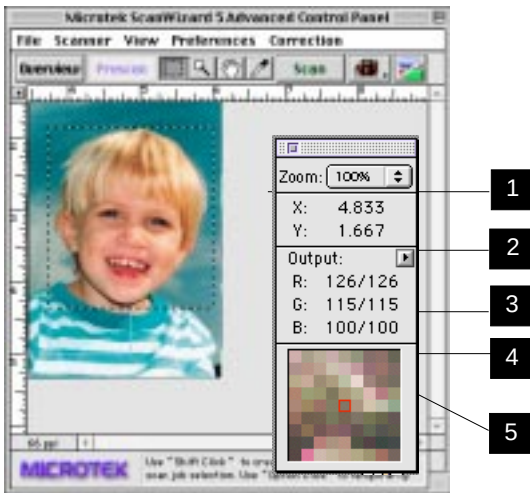


Original image

Info Window tool

The Info Window tool creates Info Window, which are used to isolate and identify precise colors in a given image, providing a visible and retrievable record of color values. With the use of this tool, ScanWizard 5 lets you pinpoint the color on the image, showing you the original or “Before” values, as well as the corrected or “After” values following the application of image adjustment controls.

The Info Window tool is useful especially if you are making color adjustments based on known mathematical values, as the displayed color information provides a basis for knowing how close or accurate are the color changes that have been made.



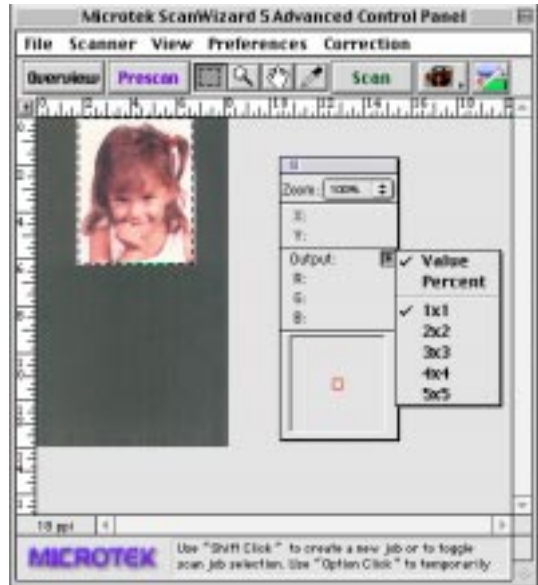
- 1 This is the portion of the image on your cursor.
- 2 The sample size selection.
- 3 The RGB values. The left hand of the fraction shows the "before" color value, while the right hand of the fraction shows the "after" color value.
- 4 The color strip shows the color selected by the Info Window tool.

You can also change the sample size of the Info Window tool and specify whether you are sampling a 1x1 pixel area, 2x2, and so forth. The sample size is changed in the Information window.

To change the sample size of the Info Window tool:

1. Open the Information window by choosing the *Show Info Window* command in the View menu.
2. Click the *Sample Size* button, located to the right of the RGB values in the Information window.
3. Choose your options.
 - Select *Value* or *Percent* to determine how the pixel information will be displayed.
 - Select the sample size. For instance, the 1 by 1 option will display the value of one pixel — the one in the middle of the Sample Display area. The 3 by 3 option reads the average value of an area that is 3x3 pixels.

For more information on this subject, see the section on *The Information Window*.

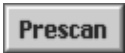


Overview, Prescan, and Scan



The Overview button previews the image in the scan bed.

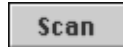
By default, the entire scan bed is previewed when you click the Overview button. To change the area to be previewed, specify the dimensions in the Overview Setup command (in the Preferences menu).



The Prescan button previews in high resolution the area selected by the scan frame tool. Multiple prescans can be done if you have selected several scan jobs. Options governing the prescan function can be found in the Prescan Setup command in the Preferences menu.

To obtain multiple prescan images:

1. Define your scan jobs in the scan job window (see the scan job window section for more details).
2. To select multiple scan jobs, press the *Shift* key and click on the jobs to be selected in the Scan Job or Preview window.
3. Click the Prescan button in the Preview window. Multiple prescans are created in the process, corresponding to the number of scan jobs defined, and you can then switch among the various prescan images.



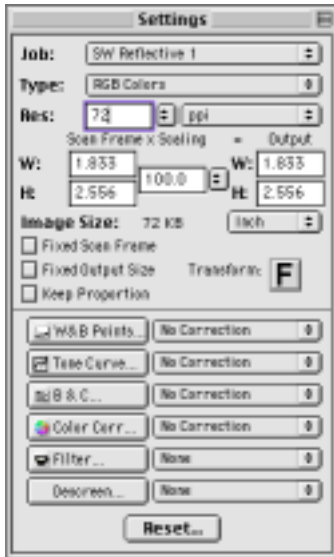
The Scan button scans the images in your scanner and delivers the images to your image-editing software. The images that are scanned are the scan jobs that have been checked in the Scan Job window.

Note: If the Retain Scan Module After Scan option (in the Preferences menu) is checked, you will need to exit ScanWizard 5 to see the scanned image in your image-editing software.

Rulers

The rulers on the top and left sides of the Preview window help you with measurement and alignment, marking off measurement according to the selected unit (inch, pica, pixel, etc.).

The rulers change when dimensions are altered in the preview area of the Overview Setup command (in the Preferences menu). For example, if you change the preview area size from 5" x 8" to 6" x 9", the rulers will change accordingly.



Select unit of
measurement
here

Ruler

Unit of Measurement

The unit of measurement can be selected in two ways:

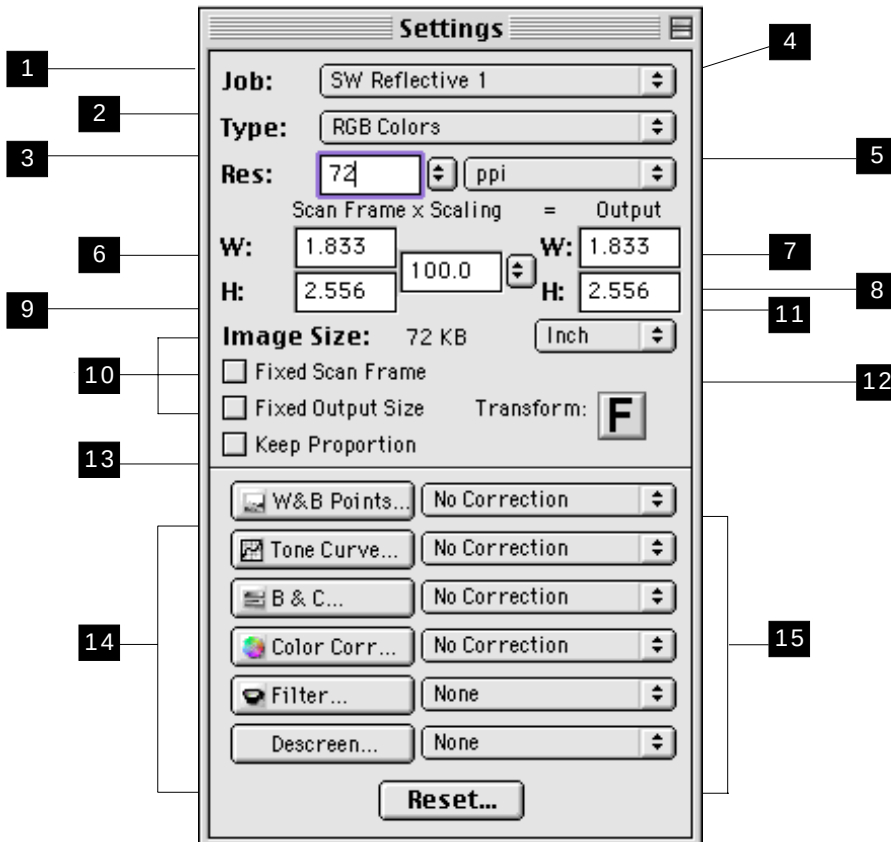
- Through the Unit box in the Settings window.
- Through the arrow at the corner where the rulers meet in the Preview window.

The options for unit of measurement include inch, centimeter, millimeter, point, and pixel. The pixel option is dimmed if the selected resolution unit is lpi.



The Settings Window

The Settings window contains the commands for outputting your scanned image and includes the image-enhancement tools of the ScanWizard 5.



- 1 Job: This shows the current scan job as indicated by the Scan Job window and by the selected image in the Preview window.
- 2 Type: This shows the image type of the current scan job.
- 3 Resolution: This lets you specify the output resolution in your final scan.
- 4 Resolution list box: This provides predefined resolution values for easier selection of the resolution setting.
- 5 Resolution unit: This provides the unit of selection for resolution. Choose from ppi and several lpi options.
- 6 Scan Frame settings: These settings (which include the Scan Frame width and height edit boxes) represent the area on the scan bed that you wish to scan.
- 7 Output settings: These settings (which include the Output width and height edit boxes) represent the dimensions of the image when it is output to either a monitor or printer.
- 8 Scaling: This lets you scale images, creating larger or smaller images from the original source image in the process. The Scaling list box beside the scaling edit box provides predefined scaling percentages.
- 9 Image size: This shows the size of the file when the image is scanned. The resulting file size depends on the image type (color, grayscale, etc); resolution; and dimensions of the image.
- 10 Scan Frame options: These options influence the behavior of the scan frame relative to the overview image.
- 11 Unit of measurement: This lets you choose your desired unit of measurement, which will then be reflected in the rulers alongside the Preview window. Choose from inch, cm, mm, point, or pixel.
- 12 Transform: This lets you flip horizontally or rotate the image in increments of 90 degrees.
- 13 Advanced Image Correction (AIC) controls: These controls let you adjust and enhance the image, and image corrections can be displayed in real time.
- 14 Custom options: These allow you to add or remove custom settings for each AIC control.
- 15 Reset: This button changes settings in the Advanced Image Correction controls to their default values.

Image Types

ScanWizard 5 allows direct scanning in the following color spaces described below. The desired color space in ScanWizard 5 can be selected in the *Type* box in the Settings window.

RGB Color

RGB (Red, Green, and Blue) images use three colors to reproduce up to 68.7 billion colors. Because scanners and monitors are RGB devices, the RGB color space is the most commonly used space for capturing and displaying images. ScanWizard 5 offers standard RGB and 48-bit RGB color selection, with the 48-bit option available for the ScanMaker 5, ScanMaker 2000, and other Microtek professional pre-press scanners.



RGB color: 622K

Web / Internet Colors

This mode is useful for displaying images on the Web or Internet. Output for the Web / Internet color mode in ScanWizard 5 is 8-bit, 256 indexed color images.



Indexed color: 208K

Grayscale

Grayscale images use shades of gray to simulate gradations of color or tonal values, and contain 8 bits per pixel. The Grayscale 16-bit option is provided in ScanWizard 5 for professional pre-press scanners.



Grayscale: 208K

Line Art

Line Art images are made up of one bit of color (black or white) per pixel. Few editing options are available in this mode, but this mode is useful for images consisting purely of black and white or even single colors, such as mechanical drawings, blueprints, or fine-line illustrations.

Black-and-White Diffusion

This is a single-bit black-and-white image dithered with error diffusion. The black and white pixels are arranged in a way as to “fool” the eye into seeing gray.

256 Colors (Default) / 256 Colors (Custom)

These are single-channel images (8 bits per pixel) that use a color lookup table containing up to 256 colors. The file size is smaller for images in this mode. As an initial setting, selecting 256 Colors (Default) uses an *Adaptive* palette with *Diffusion*. If the 256 Colors (Custom) option is selected, the dialog box below appears.



Palette:

The Palette option lets you choose the method for creating the color palette table. *Uniform* uses a 6-6-6 fixed color palette table. *Adaptive* (default) creates a color palette table from the more commonly used areas of the color spectrum that appears in the image.

Dither:

The Dither option can improve the color quality of the 256-indexed color image for photographs or continuous-tone images, using a technique of mixing available colors to simulate missing colors. *None* provides no dithering. *Pattern* uses a structured pattern to simulate missing colors. *Diffusion* (default) uses the error diffusion technique to dither colors and produces the best quality for 256 colors.

Resolution

Resolution is the sampling of image pixel per measurement unit or the amount of pixel information stored in an image. Together, the image resolution and dimensions determine the file size of the image, which is measured in kilobytes (KB) or megabytes (MB).

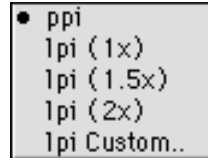
The resolution of an image is important in determining the quality of the output image. Resolution is also directly related to file size, and the higher the resolution, the larger the resulting file size will be.

When dealing with resolution, remember to distinguish between optical resolution and interpolated resolution.

Optical resolution is the "real" resolution as measured by the scanner's optics. Interpolated resolution is software-enhanced resolution and can be useful for enlarging very small images or for printing line art to obtain superior results.

Resolution Unit

The unit of measurement for resolution is in ppi (pixels per inch) or lpi (lines per inch). Lpi settings are dimmed if the ruler unit is in pixels.



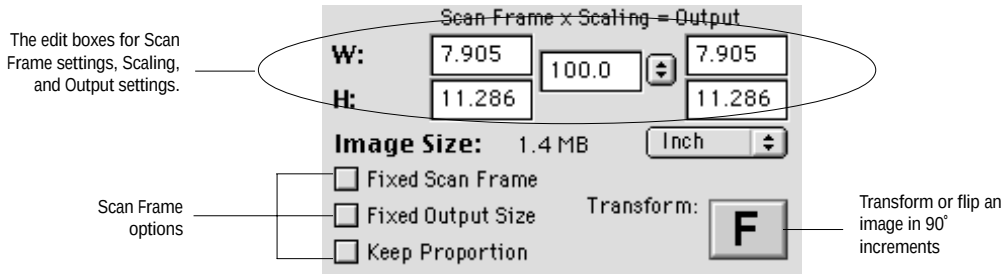
To select your resolution unit:

- Choose *ppi* if your scanned images are intended for on-screen display; you do not have to go higher than the target resolution of your monitor (usually 72 dpi for Macintosh and 96 dpi for Windows). A higher resolution will simply increase the file size of your image without any perceptible improvement in image quality.
- Choose *lpi* if your scanned images are to be printed. If you choose 1x, for instance, your scanned image will be printed at 133 lines per inch, resulting in a 133-dpi image. At 1.5x, the image will be printed at 199.5 dpi; and at 2x, the image will be printed at 266 dpi. The Custom option allows you to set an lpi value of your own specification.

In choosing an appropriate lpi value, keep in mind that if the resolution is too low, pixelization of the image results, in which the Postscript language uses a single pixel's color values to create more than one halftone dot. If the resolution is too high, the file size becomes unwieldy and your file ends up containing more information than the printer needs, slowing down the printing process.

Scan Frame, Scaling, Output, and Transform

The input / output dimensions of your image are controlled by the Scan Frame Settings, Scaling, and the Output Settings. Together with the Scan Frame options, these fields allow you to control with precision the size of the image to be scanned or output.



In the default settings of ScanWizard 5, where none of the Scan Frame options are checked, take note of the following:

- Changing the Scan Frame settings (width or height) will change the Output settings (width or height).
- Changing the Scaling will change the Output settings (width AND height).
- Changing the Output settings (width or height) will change the Scan Frame settings (width or height).

Scan Frame settings

The Scan Frame settings (width and height) represent the area on the scan bed that you wish to scan.

To specify your settings, enter the dimensions manually in the width and height edit boxes; or use the Scan Frame tool to define or resize your scan frame. Changes made in the Preview window are automatically displayed in the Scan Frame setting edit boxes.

Scaling

Scaling lets you create larger or smaller images from the original source image. Take note of the following:

- Keep the scaling at 100% if you are outputting at the same size (e.g., a 4" x 5" original to be output at the same size).
- Reduce the scaling if you are outputting your image at a smaller size (e.g., a 4" x 5" original to be output to 2" x 2.5"). Increase the scaling if outputting at a larger size.

To choose the scaling percentage, click the up/down arrow next to the scaling box, or enter a value in the scaling edit box.

Output Settings

The Output settings (width and height) represent the dimensions of the image when it is output (to either monitor or printer). If the size of the image to be output is different from the size of the original source image, adjust the scaling percentage, or manually increase / decrease the output values accordingly.

Scan Frame options

The Scan Frame options include *Fixed Scan Frame*, *Fixed Output Size*, and *Keep Proportion*.

1. Fixed Scan Frame

This option lets you lock in the settings of your scan frame, so that the width and height dimensions of the frame are always preserved no matter where you move the frame in your preview image.

If you know the exact input size for your image, or if you wish to “lock” the settings of your scan frame to a particular size, enter the Scan Frame width and height values first, then check *Fixed Scan Frame*. Your scan frame will be “fixed” at those values, so even if you move the scan frame around the preview image, the dimensions of the frame itself will remain unchanged.

2. Fixed Output Size

When the *Fixed Output Size* option is checked, the values specified for output width and height remain unchanged. If any of the input values are changed, the scaling will be adjusted automatically to preserve the output dimensions correctly.

If you know the exact output size for your image, enter the output width and height values first, then check *Fixed Output Size*. The image will then be scanned and output at the values you specify.

3. Keep Proportion

When the *Keep Proportion* option is checked, the width and height values of the image are kept in proportion despite changes made to either setting. This preserves the aspect ratio of the image.

This option is automatically checked when either “Fixed Scan Frame” or “Fixed Output Size” is selected.

Unit of Measurement

The unit of measurement lets you select the desired unit (inch, cm, mm, point, pixel) for your image dimensions.

Important: Make sure you select the correct unit of measurement before entering any of the values for width or height in the Scan Frame Settings or Output Settings.

Additional Notes

- When none of the Scan Frame options are checked, all five edit boxes are enabled, allowing you to edit or enter values into any of the boxes.
- The *Fixed Scan Frame* and *Fixed Output Size* options are mutually exclusive. This means that only one of the options can be checked at any time; checking another option will automatically uncheck the other one.
- When an illegal value is entered (e.g., the input width exceeds the scan frame size), the value will appear in red as a flag or warning indicating an out-of-range value.

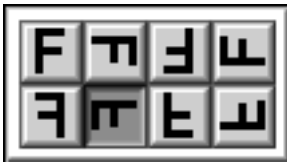
Transform

The Transform command allows you to rotate and / or flip the image in increments of 90 degrees.

The effects of the Transform command are seen only after you click the Scan button and scan the image in; the effects are not shown in the Preview or Overview modes.

To use the Transform command,

1. Click on the Transform button in the Settings window.
2. From the options that appear, choose the degree of rotation you wish.

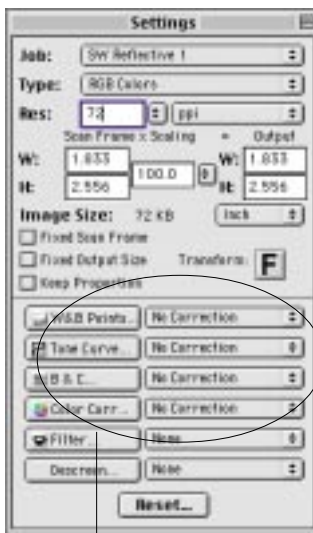


3. Click the Scan button in the Preview window. When the image is scanned, it will be rotated or transformed according to the selected option.

The Advanced Image Correction Tools

The Advanced Image Correction (AIC) tools are an integral part of ScanWizard 5 and include several powerful mechanisms for adjusting or enhancing your images. These tools include White & Black Points, Tone Curve, Brightness & Contrast, Color Correction, Filters, and Descreen. Take note of the following:

1. To access an AIC tool, click a particular tool in the Settings window or choose its counterpart in the Correction menu in the Preview window.
2. After clicking a tool, the AIC dialog box appears. The elements of the AIC dialog box are explained in the next section.



1



Note: For scanning in negative mode, the Descreen menu is replaced by the Film Type menu.

2



Elements of the Advanced Image Correction screen



- 1 Left Thumbnail: This shows the image before enhancements are applied.
- 2 Right Thumbnail: This shows the image after enhancements are applied. In the example shown, the brightness and contrast features of the image have been altered. Updates to the image are shown in real time.
- 3 Advanced Image Correction Tools (AIC): These tools let adjust or enhance your images. Click any tool in this area, and see how the core of the AIC screen (#6) changes to reflect the properties of that tool.
- 4 Preview option: If checked, changes or enhancements are applied immediately to the Preview window image (for both Overview and Prescan images). If unchecked, changes are seen only after you close the AIC dialog box
- 5 Thumbnail option: If checked, the before and after thumbnails are shown in the AIC screen. You can choose to uncheck this option and hide the thumbnails, since changes can be previewed in the Preview window. If unchecked, the screen collapses to show only the lower portion of the dialog box.
- 6 Core of the AIC screen: This is the heart of the AIC screen, and the content here changes to reflect your selected AIC tool.
- 7 Action Buttons: These carry out a specific action. See the next section for more details.

The Action Buttons

The Action buttons in the AIC dialog box carry out a specific action. Details follow.

OK button

This button applies to the current scan job whatever image enhancements you have performed, and then closes the AIC dialog box.

Example: If you increased brightness, changed the saturation, and then clicked *OK*, all the changes are applied, and you exit the AIC dialog box.

Cancel button

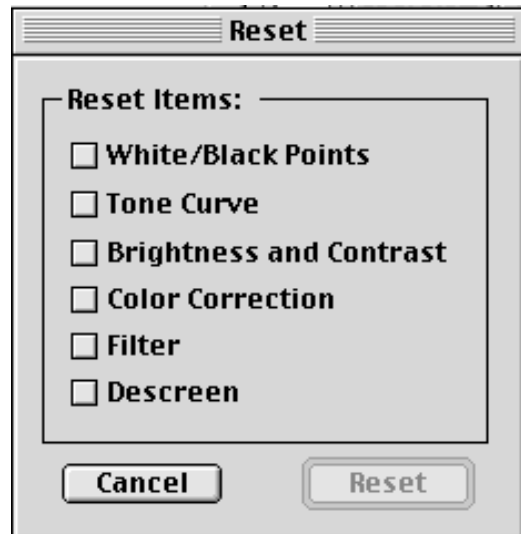
This button cancels out all image-enhancement changes you have made to the current scan job, and then closes the AIC dialog box.

Example: If you applied filters, changed the curve, and then clicked *Cancel*, none of the changes will take effect, and you exit the AIC dialog box.

Reset button

This button brings up the Reset dialog box, where you can specify the settings to be reset by checking the box next to the targeted settings. If you click the *Reset* button, the settings are restored to their default values; if you click the *Cancel* button, the operation has no effect, and the settings remain in force.

Example: If you changed the tone curve and brightness, then checked the brightness option and clicked *Reset*, the brightness setting of the scan job is restored to its default value. The altered tone curve, however, remains in effect. If you reset both tools, then both are restored to default.



Revert button

This button cancels out the changes that were made with the current image-enhancement tool. This means that if you used several AIC tools, *Revert* cancels the effect of only the last used (or current) tool, and preserves the effects of the other preceding tools.

Example: If you changed the tone curve, applied filters, changed brightness, then clicked *Revert*, the brightness changes will be cancelled out, but the altered tone curve and filters settings remain in effect.

Add to Menu button

This button adds the settings you have performed to the menu in the Settings window, so that you can retrieve and load the settings in the future if necessary.

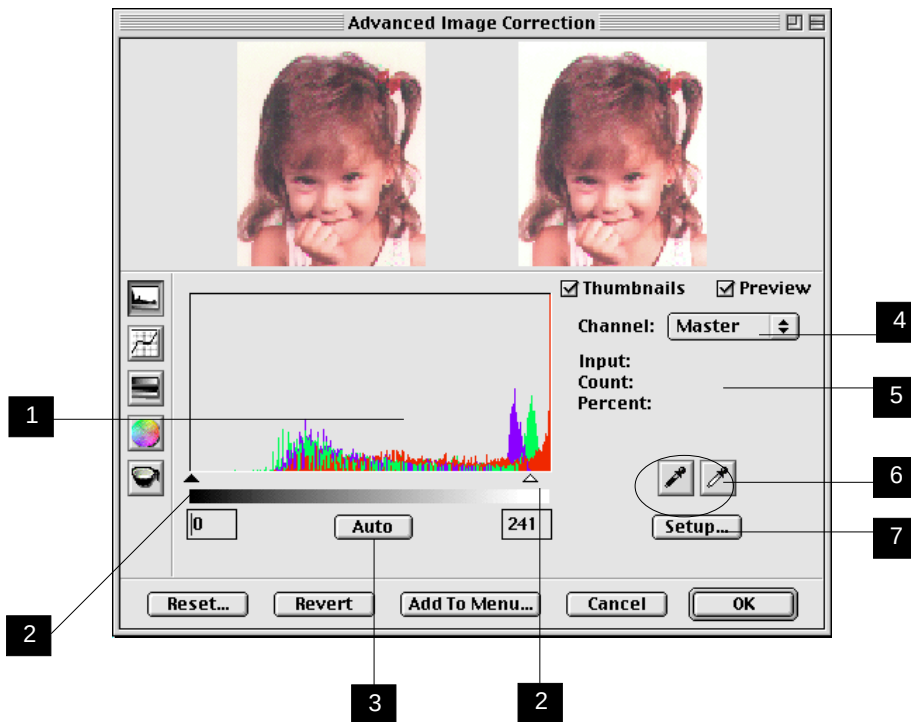
White / Black Points



The histogram located in the White & Black points screen shows the total distribution of color data before user corrections are applied. This tool lets you adjust the white and black point of the scanned image. The white / black point controls which color value of the image to be scanned appears as absolute white / black in the output image. Other color values are adjusted in a similar manner.

For example, moving the black point indicator to the right in an image which contains very little shadow data will allow more contrast in the highlight area of the image. Conversely, moving the white point indicator to the left (to lower color values) in an image with very little highlight data will allow more contrast in the shadow area of the image. This tool can be used either on all colors at once or on individual color channels.

The White/Black Points screen is available for all color images types and grayscale images. The channels are RGB or Gray.



- 1 **Histogram:** The histogram is a graphic representation of how all the pixels in an image are distributed across brightness and darkness levels. The darkest pixels are at the left; the lightest pixels are at the right.

A histogram skewed heavily to the left indicates that the image has many more dark pixels than light. Conversely, a histogram skewed heavily to the right will indicate a light image as it has more light pixels than dark. The height of the histogram indicates the number of pixels at that point in the histogram.
- 2 **Sliders:** The sliders are used to adjust the Black and White points of the image. The values of the black and white points are reflected in the edit boxes below.
- 3 **Auto:** The Auto button automatically judges the darkest and whitest points and clips excessive black or white points. The clipping percentage of the white/black points is accessible by clicking the Setup button.
- 4 **Channel:** The channel button lets you control the shadow and highlight settings for a particular color channel (red, green, or blue), or for the Master channel (red, green, and blue simultaneously). For CMYK images, the channel selections are cyan, magenta, yellow and black (for K).
- 5 **Input, Count, Percent:** These figures provide information about the histogram. The figures will appear only when the cursor is on the histogram or if a slider is being moved.
 - The *Input* value indicates the color value of the data displayed in the histogram.
 - The *Count* value indicates the number of pixels at the Input value. If Input value is 2 and Count value is 1300, then there are 1300 pixels in the image at the Input value of 2.
 - The *Percent* value is the percentage of all pixels in the image where color value is less than or equal to the input value. For example, if Percent is 15% and Input value is 2, it means that 15% of all pixels in the image have a value of 2 or less.
- 6 **Pickers:** The Pickers can be used instead of the sliders to set the Black and White points, based on color values in the preview image. The Picker on the left sets the Black point; the Picker on the right sets the White point.
 - To set the White point: Click the Picker on the right, then click on the preview image to define the reference point.
 - To set the Black point: Click the Picker on the left, then click on the preview image to define the reference point.
- 7 **Setup:** This button provides you with advanced controls for setting the white/black clipping points, as well as for determining the output levels for the white/black points on your printer.

For more information on how to use the options in the dialog box, see the section "White/Black Point Setup" under *The Preferences Menu* section of the manual.

To use the White & Black Point tool:

1. Choose the *Channel* in which the histogram will be modified.
 - If your Image Type is RGB, select *Master* to modify the tone curve in the red, green, and blue color channels of the image simultaneously; or select the color channels individually (red, green, blue) to modify that particular color channel.
 - If your Image Type is Grayscale, only the *Gray* channel is available for selection.
2. Move the black and white *sliders* to new points on the histogram.
 - Moving the black slider to the right will yield more contrast in the highlight areas of the image, so that more detail emerges in the highlight areas.
 - Moving the white slider to the left will yield more contrast in the shadow areas of the image, so that more detail emerges in the shadow areas.

Another alternative is to simply click the *Auto* button, so that the dynamic range for the image is determined automatically.

3. When the changes are done, click *OK*. For more details on the effects of the other action buttons, see the section *The Action Buttons*.

Tone Curve



The Tone Curve tool lets you adjust the tonal range of an image. However, instead of making adjustments using just three variables (highlights, shadows, and midtones), you can adjust any point along the 0-to-255 scale (for 8-bit images; 0-to 4096 scale for 12-bit images). The Tone Curve tool applies to grayscale and all color images and is not available for line art or halftone scan modes.

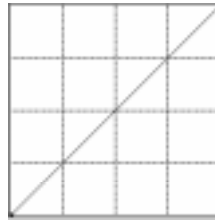
How to Read the Curve

The Curve shows the relationship of the brightness changes across the middle pixels between the resulting image and the original. When you open the Curves dialog box, the line on the graph is diagonal because the Input and Output values are the same.

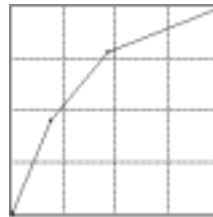
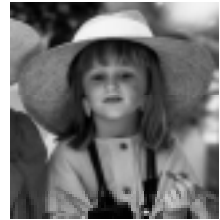
When the curve is moved up or down, the relationship between input value and output value changes accordingly.

- In areas where the curve is moved down, pixels in that portion of the image are darkened.
- In areas where the curve is moved up, pixels in that portion of the image are lightened.

Contrast in an image can be seen by the angle of the line. The steeper the slope, the higher the contrast. The closer the line is to horizontal, the lower the contrast.



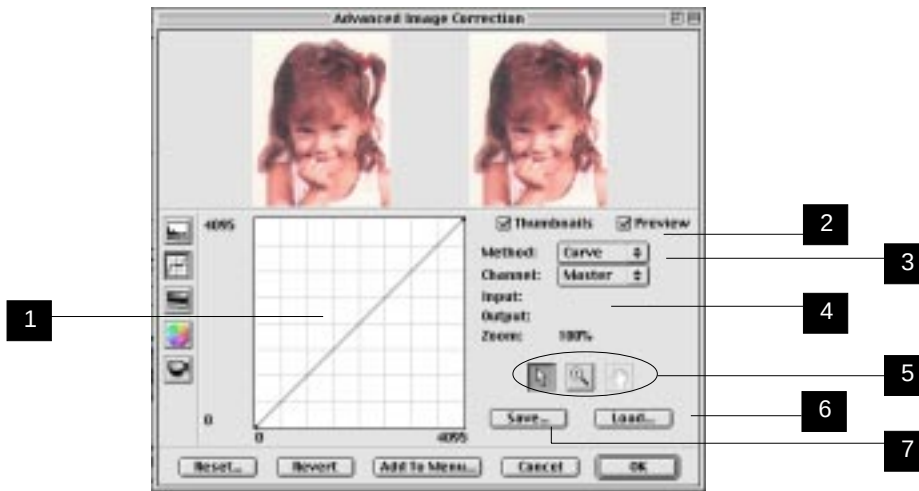
Original curve



Modified curve

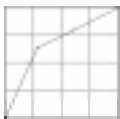


How to Use the Tone Curve

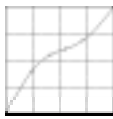


1 Curve: The Curve is a graphic representation of the tone curve showing scanner input from dark on the left to light on the right.

2 Method: The Method sets the kind of curve you wish to have. Select from Line, Curve, or Gamma.



Line



Curve



Gamma

3 Channel: The Channel allows you to choose the color or gray channel in which the gamma will be affected.

4 Input, Output, Zoom:

- *Input* shows the horizontal value of wherever the cursor is inside the curve, reflecting the scanner's full depth. The example above shows the cursor pointing to the middle of the curve and having a value of 1696 on the 0-to-4095 pixel scale, for a 36-bit scanner like the ScanMaker 5. For 24-bit scanners, the pixel range is from 0 to 255.
- *Output* shows the vertical value of wherever the cursor is inside the curve, reflecting the scanner's full depth. The example above shows the cursor pointing to the exact middle of the curve, with a value of 1973.
- *Zoom* indicates the magnification level of the curve box. At 100% zoom, the curve is seen in its entirety. Using the zoom frame tool (discussed below) to magnify the curve will zoom in or enlarge your view of the curve, resulting in a higher zoom percentage.

- 5 **Curve Tools:** The Curve Tools let you modify the curve. The tools are the curve pointer, the curve zoom frame, and the curve pane.



Pointer

Use the Curve Pointer tool to define points in the curve that will be modified. When you click on any point in the curve, a black handle appears to mark your position. To remove the handle, drag it off the graph.



Zoom
Frame

Use the Curve Zoom Frame tool to zoom in and out on a particular point in the curve. Once the area is zoomed in, you can then use the Curve Pointer tool to define new points for better precision. This is particularly useful for working with 12-bit images, as more detail can be seen in such images. The zoom level can be seen in the *Zoom* field. To zoom out, use *Option-click*.



Pane

Use the Curve Pane tool to scroll through the curve if the curve has been zoomed in. This curve tool can be used only if the curve has been zoomed in with the Curve Zoom Frame button (above). Otherwise, the Curve Panel tool will be dimmed.

- 6 **Load:** The Load button lets you load a previously saved tone curve for use with another image. Photoshop-saved curves can also be loaded.
- 7 **Save:** The Save button lets you save a tone curve together with its settings so that the curve can be used in the future if necessary.

To use the Tone Curve tool:

1. Choose the *Channel* in which the curve will be modified.
 - If your Image Type is RGB, select *Master* to modify the tone curve in the red, green, and blue color channels of the image simultaneously; or select the color channels individually (red, green, blue) to modify that particular color channel.
 - If your Image Type is Grayscale, only the *Gray* channel is available for selection.
2. Choose the *Method* in which the curve will be modified. Select from Line, Curve, or Gamma.
3. Click the Curve Pointer tool, then click on the gamma curve to define the points where the curve will be modified. You can then either raise or lower the curve at that point and see changes to the image accordingly.
4. When the changes are done, click *OK*. For more details on the effects of the other action buttons, see the section *The Action Buttons*.
5. To save a curve, click the *Save* button. To load a previously saved curve, click the *Load* button and specify the curve setting to be loaded.

Brightness & Contrast



The Brightness & Contrast tool lets you control the brightness and contrast levels of the entire image. Increasing the brightness makes all tones in the image lighter. Contrast, on the other hand, is the range between the darkest and lightest shades in the image, and increasing the contrast makes greater separation between the darkest and lightest areas of the image.

Note: Individual channel adjustments for brightness and contrast are not supported. For RGB color images, the same effect applies to all channels.

To use the Brightness & Contrast tool:

Drag the scroll bar on the Brightness or Contrast control to change the settings. Take note of the following:

- Too much brightness can make an image look washed out, while too little brightness will make the image look dark.
- Too much contrast will make an image look like a photocopy of a picture, with little or no gray shades left. Too little contrast will make the colors in the image look dull and flat.

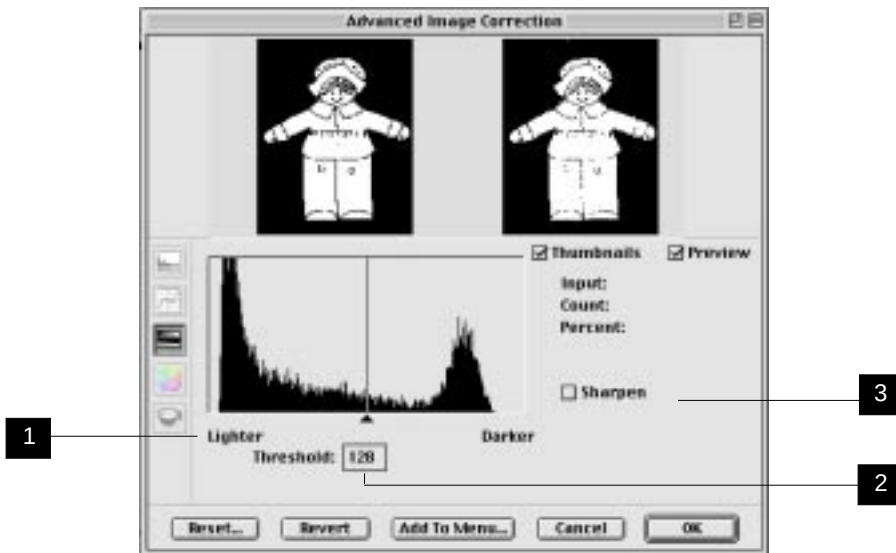


Brightness and
Contrast slider
controls

Threshold (for Line Art images)

For Line Art images, the Brightness & Contrast screen becomes the Threshold setting, and the Threshold dialog box appears instead.

Threshold is the dividing line between black and white; the range is 0 to 255, and the default is 128. Thus, gray levels below the Threshold are converted to black, while gray levels equal to or above the Threshold are converted to white, resulting in a high-contrast, black-and-white representation of the image.



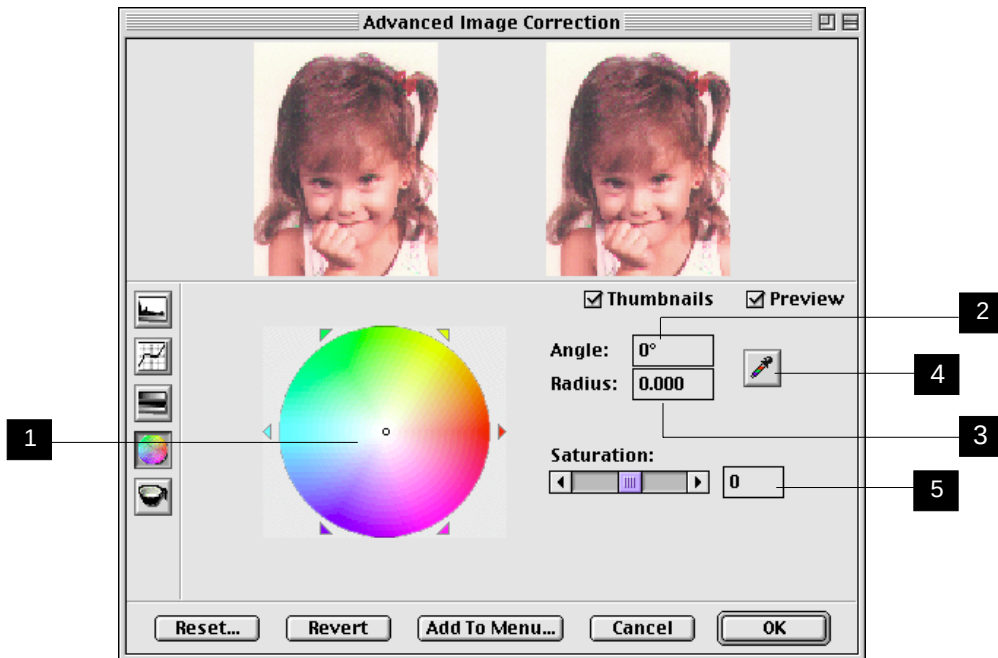
To use the Threshold feature:

1. Drag the sliders to change the Threshold.
 - To darken the original, drag the slider to the right. This increases the Threshold value so that more pixels are turned to black, resulting in a darker image.
 - To lighten the original, drag the slider to the left. This lowers the Threshold value so that more pixels are turned to white, resulting in a lighter image.
2. Alternatively, you can enter a value in the Threshold edit box to change the Threshold.
3. The Sharpen option lets you sharpen the Line Art image.

Color Correction



The Color Correction tool changes the hue and saturation of an image. You can also add a color cast to an image by simply moving the pointer to a particular place on the Wheel, or you can remove an unwanted color cast by moving the pointer to a complementary color to balance out the tones. For instance, to remove a greenish cast from your image, move the pointer in the Wheel to the "red" portion to neutralize the greenish hue of the image. The Color Correction tool is available only for RGB and indexed color images.



- 1 **Color Wheel:** The Color Wheel allows you to add or remove a color cast from an image.
- 2 **Angle:** This shows the angle of the pointer on the Color Wheel as measured in degrees, and a value can also be entered directly in the edit box to move the cursor to any point in the Wheel.

Example: 0° corresponds to the color red on the Wheel, 60° to the color yellow, 120° to the color green, 180° to the color cyan, 240° to the color blue, and 300° to the color magenta.
- 3 **Radius:** This field shows the amount of shift towards a particular color and works in tandem with the Angle field. The Radius range extends from 0 located at the center of the Color Wheel and indicating the least concentration of color, to 1, located at the periphery of the Wheel and indicating the greatest concentration of color.

Example: If your angle is 0° (red on the Color Wheel) and the radius is 1, this results in an intense reddish cast on the entire image.

The Angle-Radius feature works differently from that of the Saturation bar, which increases the saturation of **all** hues in the image without tending towards any particular color cast.

- 4 **Picker:** The Picker lets you pick a known neutral gray shade in your image and adjusts it to a closer, truer gray. The grays in an image may have a particular color cast which can be verified through the color information in the Information window. A gray that tends towards a reddish tint, for instance, will have its R value skewed higher than the G and B values. By using the Picker on a gray area, the gray is adjusted so that the RGB values become approximately equal.
- 5 **Saturation bar:** This lets you change the intensity of the hues (colors) in your image. Use Saturation selectively, because increasing saturation will increase the intensity of all hues in the image.

To use the Color Wheel:

1. To change the hue of an image, move the pointer in the color wheel to its new color position in the wheel.
2. To change the saturation of an image, drag on the saturation bar. Dragging the scroll bar to the left decreases saturation; dragging it to the right increases saturation.
3. Use the Angle, Radius, and Picker as necessary.
4. Click an action button. For more details, see the section *The Action buttons*.

Filters

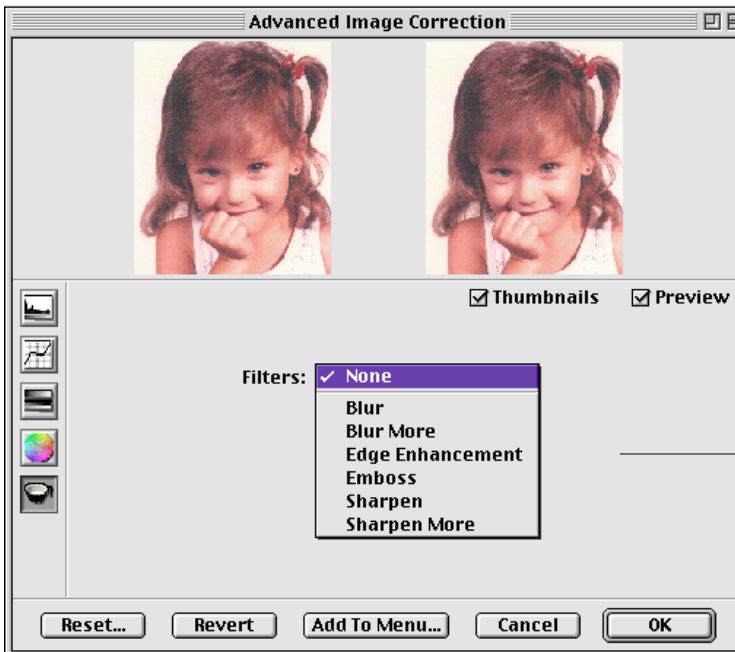


The Filters tool lets you apply or create special effects to your images. The filters include Blur, Blur More, Sharpen, Sharpen More, Edge Enhancement, Emboss, Unsharp Masking, and Gaussian Blur.

In using the Filters tool, keep in mind that the image you obtain in the preview window may differ from the way the image appears when you finally scan it in. The appearance of the image in the preview window and how it is affected by a filter will depend on the resolution of the image. The higher the resolution, the less obvious the effect of certain filters (such as Blur).

To use the Filters:

Click the Filter box, and from the drop-down menu that appears, select the filter to be used



Filter box

Blur filters

The Blur filters eliminate noise in the parts of the image where significant color transitions occur. These filters decrease the contrast between adjacent pixels, making the image appear hazy and out of focus.

- *Blur* smooths out the transitions by lightening pixels next to the hard edges of defined lines and shaded areas.
- *Blur More* produces an effect three or four times stronger than *Blur*.



Original



Blur



Blur More

Sharpen filters

The Sharpen filters do the opposite of the Blur filters and increase the contrast of adjacent pixels, making images appear sharper and more focused.

Both *Sharpen* and *Sharpen More* filters improve clarity, with the *Sharpen More* filter having a stronger sharpening effect than the *Sharpen* filter.



Original



Sharpen



Sharpen More

Edge Enhancement filter

The Edge Enhancement filter gives greater contrast to edges. The filter can do this because edges are areas in an image where gray or color levels change abruptly. It is best to use this tool for improving geometrical contoured shapes.



Original



Edge Enhancement

Emboss filter

The Emboss filter makes a selection appear raised or stamped by suppressing the color within the selection and then tracing its edges with black.



Original



Emboss

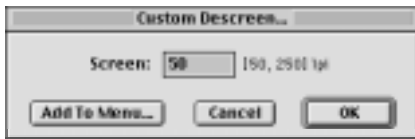
Descreen

Descreen...

The Descreen tool lets you remove moiré patterns in the scan process. Moirés occur when you scan a screened original (mostly reflective materials, such as pictures from a newspaper or magazine), and these patterns appear to the naked eye like a series of cross-hatching lines, as shown in the example below.

To use Descreen:

1. Click the Descreen tool.
2. When the Descreen dialog box comes up, enter a value that best corresponds to the dot quality of the original in which the moiré is to be removed. You may use a screen finder to measure the print screen lpi. Please contact your local print shop for more information on how to obtain a screen finder.



- Set a value from 50 to 85 if the original image has a coarse dot pattern, as in images taken from a newspaper.
- Set a value from 100 to 133 if the original image has a fine dot pattern, as in images taken from a magazine.
- Set a value from 200 to 250 if the original image has a very fine dot pattern with a near-photographic quality, as in images taken from a high-quality art magazine.



Before Descreen



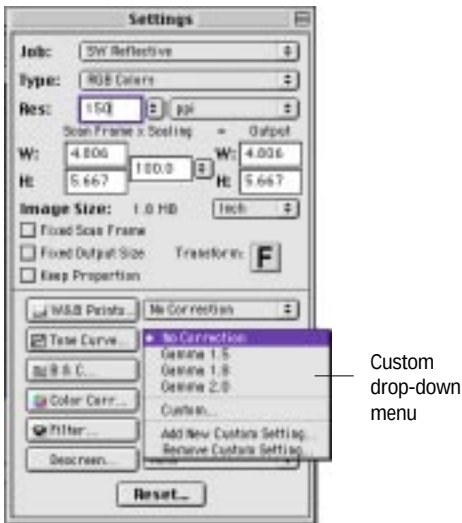
After Descreen

Custom Settings

You can also create custom settings in each Advanced Image Correction control, and then add them to the Settings window menus for quick access to those settings.

To create a custom setting:

1. Choose the desired AIC control (e.g., W&B Points, etc.) in the Settings window, and select *Custom* from the drop-down menu on the right side.



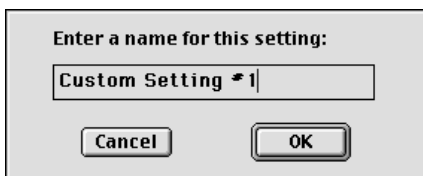
To remove a custom setting:

1. Choose the desired AIC control in the Settings window, and select *Remove Custom Setting* from the drop-down menu on the right side.
2. When a dialog box appears, highlight the custom setting to be removed, then click the *Remove* button. The custom setting is deleted from the menu.

Note: To delete the custom setting, you MUST click the Remove button (not just select and click OK).

3. Click OK to close the dialog box.

2. When the AIC dialog box for the selected control comes up, adjust the setting the way you want it, then click the *Add to Menu* button at the bottom of the dialog box.
3. Enter a name for the Custom Setting (ex: *More Red Tint*), then click OK. The new custom setting is added to the menu.

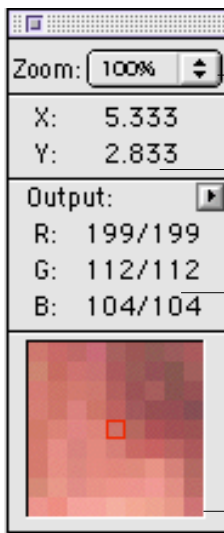


The Information Window

The Information window provides information on the cursor and the preview image. It also allows you to change zoom levels directly, in much the same way like using the Magnifying Lens tool in the Preview window.

The Information window is a "floating window" and does not appear when you start up the scanning software. To display the information window, click on the *Show Info window* command in the View menu (in the Preview window).

Elements of the Information window



1 The **Zoom Level Display** shows the magnification levels possible — from 100% to a maximum 1600% view.

2 The **Cursor Locator** shows where the cursor is on the coordinates along the x (horizontal) and y (vertical) axis, based on the unit of measurement selected for the rulers.

3 The **Color Meter Display** indicates the values of the red, green, and blue (RGB) color channels of that part of the image to where the cursor is pointing. The numbers represent the values in the 0-to-255 pixel range.

4 The **Sample Size button** lets you choose how extensively the color information will be read — whether it will apply to a single pixel or an averaged area.

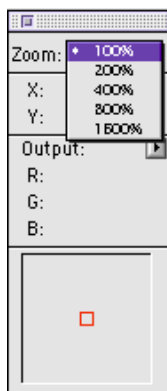
5 The **Pixel Display** shows the pixel and color information of the image part where the cursor is resting.

Using the Zoom Level Display

The Zoom Level Display magnifies your view of an image, much like the Magnifying Lens tool in the Preview Window.

The magnification factor in both Zoom Level Display and the Magnifying Lens tool is by a factor of 2. Thus, the magnification levels increase from 100% to 200%, to 400%, to 800% and to the maximum 1600%.

To use the Zoom Level Display:
Click on the Zoom Level box. From the drop-down menu that appears, select your zoom or magnification level.



Click here to display the drop-down menu, and then select your zoom level.

Using the Cursor Locator

The Cursor Locator shows you where the cursor is on the x (horizontal) and y (vertical) coordinates of the axis. This feature is useful for operations that require very precise measurements and alignment.

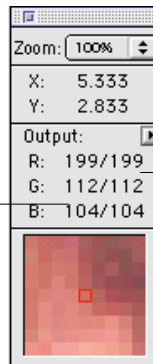
Using the Color Meter Display

The Color Meter Display is useful if you wish to adjust the shadow and highlight points of an image.

As you pass over a point in the image, the Color Meter Display will show the appropriate RGB values of that point in the image. The significance of the numbers is explained below.

- There are two numbers shown in the Color Meter Display. The first number represents the raw color data taken by the scanner; the second number represents the resulting value after color correction or image enhancement is applied to the image.
- The values can be anywhere from 0 to 255, with 0 as the black point, 255 as pure white, and all other values in between corresponding to shades from black to white.
- The values as a whole represent color information for the sample size selected in the Sample Size button (discussed below). For instance, if you chose 3 x 3 as your sample size and your R value reads 23, that shows your red value of 23 is the average of a 3-pixel by 3-pixel area.

The numbers can be from 0 to 255, with 0 as the black point, 255 as white, and all values in between corresponding to shades from black to white.



The first number is raw color data; the second number is color data following enhancement or modification.

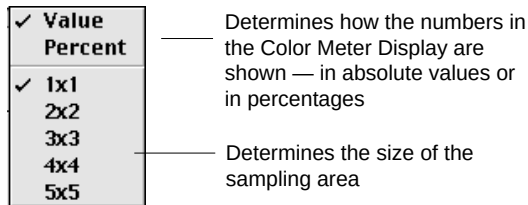
Pixel-value information is useful especially if you are making color corrections based on color values. Knowing this, you can modify the shadow and highlight points of an image, then come back to the same point in the image, and verify through the Color Meter Display that the RGB values have indeed changed.

The Color Meter Display can also be used in conjunction with the Color Picker tool. For more details, see the *Color Picker* topic in the *Preview Window* section of the Reference.

Using the Sample Size button

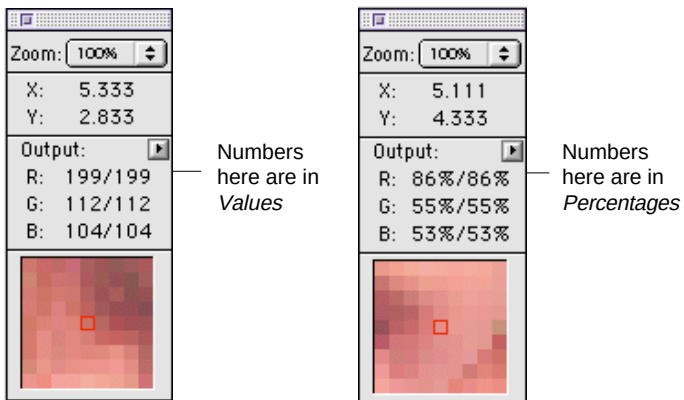
The Sample Size button provides options for choosing how extensively the color information will be read — whether the color information will apply to a pixel, a 2-pixel by 2-pixel area, or a wider expanse (maximum 5-pixel by 5-pixel area).

When you click on the Sample Size button, the drop-down menu below appears:



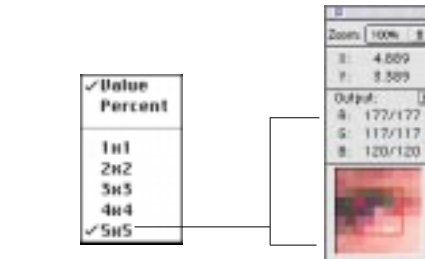
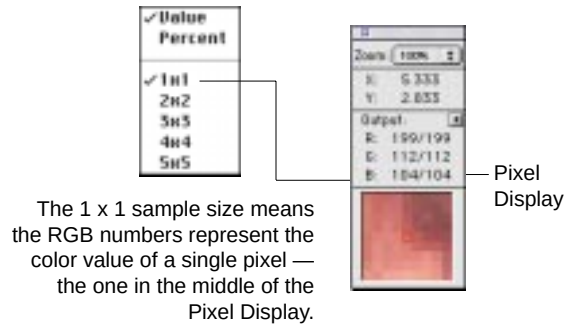
Value and Percent

- If you choose Value, the numbers in the Color Meter Display represent the values in the 0-to-255 pixel scale. For instance, an R value of 23 indicates that the sampling size selected has a red color value of 23. Value is calculated by multiplying the percentage by the constant 255 (value = 255 x percent).
- If you choose Percent, the numbers represent the percentage of the maximum intensity of the pixel. For instance, a G value of 35% indicates that the sampling size selected has a green color value to be 35 percent intense (out of 100 percent). Percent is calculated by dividing the constant 255 by the value (percent = 255 ÷ value).



Sample Size Options

This determines the expanse of color information to be made available. For instance, if you choose 5 x 5 as your sample area, this means your RGB values will represent color information for a 5-pixel by 5-pixel area. If you choose 1 x 1, the color information pertains to a single pixel — the one in the middle of the Pixel Display.



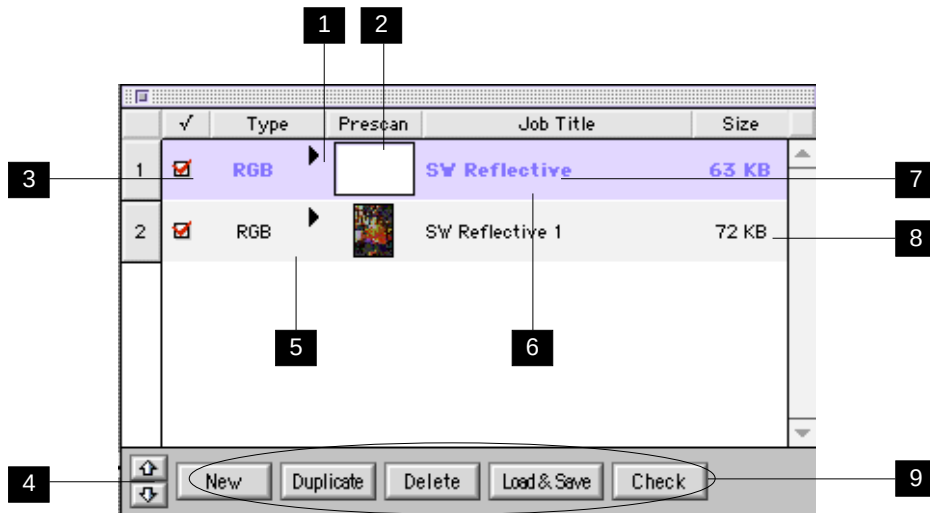
Using the Pixel Display

The Pixel Display helps you see how color pixels are organized and distributed. The display can then help you make an informed judgment on how best to modify image characteristics such as shadows and highlights, and also allow you to verify any changes that are made.

Using the Scan Job Window

The Scan Job window is a floating window that shows your scan jobs. By definition, a scan job contains the following elements: a set of scanning parameters (shown in the Settings window); a scan frame (shown in the Preview window); and a scan job item (shown in the Scan Job window).

Note: If the Scan Job window is closed, go to the View menu in the Preview window, and choose the Show Scan Job window command.



- 1 Menu for changing image type: To change the image type, click on the arrow to the left of the thumbnail and select the new image type from the drop-down list that appears.
- 2 Thumbnail of prescan image: A thumbnail appears for the selected scan job after you click the Prescan button in the Preview window and perform a prescan for the scan job.
- 3 Checked scan job: Checked scan jobs are the ones that are scanned when you click the Scan button in the Preview window. The check box is a toggle for checking / unchecking a scan job. To check a box, you can either click on the check box or use the Check button at the bottom of the Scan Job window.
- 4 Up / down arrows: These arrows let you change the order of scan jobs in the window. You can also move a scan job up and down the list by simply highlight the selected scan job and dragging it to its intended place and order in the window.
- 5 The selected scan job is the highlighted item. You can have multiple selected scan jobs, which may or may not include the current scan job. In this example, "Festival" is the selected scan job, and clicking on a function button (#9) will have the effect of that button performed on the selected scan job.
- 6 The current scan job is indicated by **boldface** type; there can only be one current scan job. In this example, "Three girls" is the selected scan job. The current scan job is also shown in the *Job* box of the Settings window.
- 7 Title: The title of each scan job is shown. To edit a scan job title, highlight the scan job and hold down the mouse at the job title for a second or two. The title will be ready for editing, and simply type over the new name. If you wish, you may exit ScanWizard 5 and edit the scan job file directly in the Finder.
- 8 Image size: This is the image size of the scan job.
- 9 Function buttons: These buttons perform a specific action on the selected scan job. The Duplicate, Delete, and Check buttons can be used on multiple selected scan jobs. The New and Load / Save button can be used on only one selected scan job.

Multiple Job Selections

The function buttons at the bottom of the Scan Job window can be used for multiple job selections. The New and Load / Save button can be used on only one selected scan job. The Duplicate, Delete, and Check buttons can be used, however, on multiple selected scan jobs.

For example, you can select multiple scan jobs, and then click the *Delete* button to remove all the jobs simultaneously.

To select multiple scan jobs, press the *Shift* key and click on the jobs to be selected.

Adding a New Scan Job

1. Click the *New* button.
2. When a text box appears, accept the default name or enter a name for the new scan job.
3. Define the scan frame in the Preview window for the new scan job.
4. In the Settings window, specify the settings for the new scan job.

With the creation of a new scan job, the new scan job becomes the current scan job.

Duplicating a Scan Job

1. From the list of scan jobs available, select the scan job(s) to be duplicated
2. Click the *Duplicate* button. The selected scan job(s) will be duplicated. The Duplicate function is very useful when scanning several images at the same settings.

Removing a Scan Job

To delete a scan job, highlight the scan job to be removed, then click the *Delete* button.

Loading and Saving Scan Job Templates

This feature lets you save scan jobs that can be loaded at a later time when necessary. The idea of saving and loading scan jobs has important applications, especially for scanners with different templates or “trays”. Saving / loading scan jobs is also useful if you consistently work in a specific format, scan the same kind of images, or if the scanner is used by several users who have their own sets of jobs.

If your scanner has several trays, for instance, you may wish to create a scan job for each “tray”—for example, one for your 4”x5” transparencies and another for your 35mm positives. You can also create scan jobs to fit the needs of your users, with User A having Scan Job Folder 1 for example, and User B having Scan Job Folder 2.

In addition, you may use this feature along with the ScanWizard 5 Context to increase the flexibility of your scanning and create different scanning possibilities.

To use the Load / Save feature:

1. Click the *Load / Save* button in the Scan Job window.
2. When a dialog box appears, go to the folder of your choice. The sample dialog box below shows the following:
 - The left-hand side of the dialog box shows your scan job folders in the Finder. In this example, a folder called *Scan Job Manager* contains two folders —*35mm positives* and *4x5 transparencies*.
 - On the right-hand side of the dialog box are your current scan jobs in the queue — *Scan Job 1* and *Scan Job 2*.



To add the scan job template to the scan job list:

1. Select the folder on the left-hand side, and double-click it to open the folder.
2. Click the *Add* button to add highlighted or selected templates, or click the *Add All* button to add all the scan job templates in the folder.

Note: You may also add individual scan jobs to the scan job list.

To save scan jobs as a template:

1. Select a folder on the left-hand side, and double-click the folder to open the folder.
2. Highlight the scan job to be saved on the right-hand side.
3. Click the *Save* button in the middle column of the dialog box. The selected scan job is saved as a template to your selected folder.

To remove scan job(s) from the queue:

1. Highlight the scan job(s) to be removed on the right side of the dialog box.
2. Click the *Remove* or *Remove All* button at the bottom of the dialog box.

To close the dialog box: Click the OK button at the bottom of the dialog box.

If you remove all scan jobs in the queue and close the dialog box, you will be informed that a default scan will be automatically created, or you will return to the dialog box for manually adding at least one scan job. This is because there should always be at least one scan job in ScanWizard 5.

Appendix A: Color Matching for Advanced Users

This section contains important information on further steps you need to take to achieve color matching across your devices. The procedures to be performed include monitor calibration and how to set up ScanWizard 5 with the Apple ColorSync™ system and the Adobe Photoshop software. Some recommendations are also given in order to achieve color matching across devices. For more detailed information on the ColorSync or Adobe Photoshop functions covered in this section, refer to the respective user guides of those programs.

Calibrating your monitor

Proper monitor calibration is important for achieving higher precision in color matching. Monitor ICC profiles may be created specifically for your monitor by calibrating your monitor through the following utilities:

- ColorSync 2.5 Monitors & Sound Control Panel Calibration function
- Adobe Gamma utility, from Adobe Photoshop 5.0
- Any third-party calibration programs or hardware calibrator

Setting up the System (Monitor) Profile using ColorSync

ColorSync is Apple's industry-standard color matching system. The notes below pertain to configuring ColorSync to ensure that it works properly with ScanWizard 5.

If you have ColorSync 2.1.2 or earlier, do the following:

1. In the ColorSync System Profile control panel, select your desired System Profile settings.
2. In the Monitors & Sound control panel, set the Gamma to "Uncorrected Gamma".

In addition, make sure you disable or remove any utilities or third-party control panels that alter monitor display. Your System Profile is the profile describing the monitor you are using.

If you have ColorSync 2.5, do the following in the exact order below:

1. Open the Monitors & Sound control panel to select your desired profile in the Monitor Profile list box.
2. Open the ColorSync Control Panel to verify the desired monitor profile as the System Profile.

The settings in these two control panels should be the same. If you select a profile in Monitors & Sound, your ColorSync System Profile will change accordingly.

In addition, make sure you disable or remove any utilities or third-party control panels that alter monitor display.

Using Adobe Photoshop 5.0

A. Adobe Photoshop 5.0 Setup:

1. In the *File / Color Settings / RGB Setup* dialog box, select your desired RGB workspace.
2. Check and enable the *Display using Monitor Compensation* check box.
3. Make sure that the selected RGB workspace in Photoshop matches ScanWizard 5's RGB Destination selection. This way, the scanned images shown in Photoshop will match the preview image that was shown in ScanWizard 5. Do not change your monitor profile (i.e., ColorSync System Profile) in the middle of operating ScanWizard 5. If you want to change the monitor profile, do it after exiting ScanWizard 5.
4. The same principle above applies to CMYK images: Make sure that the settings in the CMYK Setup in Photoshop 5.0 match the CMYK Destination in the CMS Setup in ScanWizard 5.

Take note that it is not desirable to scan in raw data and then perform ColorSync data conversion using the ColorSync plug-in or the *Image / Mode / Profile to Profile...* conversion in Photoshop 5.0.

Note:

Since Photoshop 5.0 allows users to customize their own color space as well as select from a few built-in color spaces (such as sRGB, Apple RGB, CIE RGB, etc.), you may click "Save" in the RGB Setup dialog box to save the current Photoshop RGB workspace as an ICC ColorSync profile. The saved profile can then be selected in ScanWizard 5.

Take note that when you save the Photoshop RGB profile, the file name you specify may not be the same as the profile selection you see in

ScanWizard 5's RGB Destination pop-up menu (where the profile information string is shown). For example, if you save "Photoshop sRGB" as a profile, it will appear as "sRGB IEC61966-2.1" in ScanWizard 5's pop-up menu. If you are not sure about the profile you want, click the "Load" button to load the profile by file name directly.

For more information on Photoshop's color management features, visit Adobe's site on the Internet <http://www.Adobe.com>.

B. ScanWizard 5 Setup:

1. Go to the *Preferences / CMS Setup* dialog box. Check and see that the monitor selection is the same as that in the *ColorSync System Profile* selection (your current monitor setup). If you need to change your monitor, do this in the ColorSync Control Panel.
2. Make sure that the *Display using monitor compensation* check box is checked.
3. For both RGB and CMYK destination settings, select your desired profiles. These selections specify ScanWizard 5's output color space for RGB and CMYK images, respectively.
4. Make sure the RGB / CMYK destination setting matches Photoshop 5.0's RGB Setting / CMYK Setting in the RGB Setup / CMYK Setup dialog box, respectively.
5. To enable RGB color matching, make sure the *RGB Color Matching* check box is checked. Otherwise, raw RGB image data will be scanned.

Using Adobe Photoshop 4.0

A. Adobe Photoshop 4.0 Setup:

Photoshop 4.0 does not have color-management capabilities for RGB images. In Photoshop 4.0, RGB data is simply “dumped” or transferred to the monitor. As a result, the colors may appear to be different in Photoshop 4.0 compared to ScanWizard 5, regardless of the ColorSync version that you are using.

To display colors consistently on both Photoshop 4.0 and ScanWizard 5, make sure that the “Display using monitor compensation” check box is NOT checked in the CMS Setup dialog box in ScanWizard 5.

B. ScanWizard 5 Setup:

1. Go to the *Preferences / CMS Setup* dialog box. Check and see that the monitor selection is the same as that in the *ColorSync System Profile* selection (your current monitor setup). If you need to change your monitor, do this in the ColorSync Control Panel.
2. Make sure that the *Display using monitor compensation* check box is NOT checked.
3. To enable RGB color matching, make sure the *RGB Color Matching* check box is checked. Otherwise, raw RGB image data will be scanned. It is not desirable to scan in raw data and then perform ColorSync data conversion.

Additional Notes

These additional notes pertain to the use of the Batch Scan feature of ScanWizard 5.

When creating your batch command, you need to make sure that the color space where images will be output is set up correctly in ScanWizard 5’s CMS Setup dialog box.

After images are scanned, saved as files, and then opened in Photoshop 5.0, you may be asked to convert the images when the assumed RGB profile setting (in Photoshop *File / Color Settings / Profile Setup* dialog box) does not match your RGB workspace (in *File / Color Settings / RGB Setup* dialog box). Select “Don’t Convert”, because the images have been scanned according to your color space requirement.

Please note that it is not desirable to convert the image if you have previously chosen to scan as raw data; the result will not be what you expect. Always let ScanWizard 5 perform the color matching for you.

Appendix B: Kodak Color Management System

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KCMS Overview

Some Background Information

Everyone perceives colors differently. Even the same person's perception can be affected by different lighting conditions. Different devices (input, display, and output) also interpret and define color differently and simply can't create the same gamut (or "range") of colors.

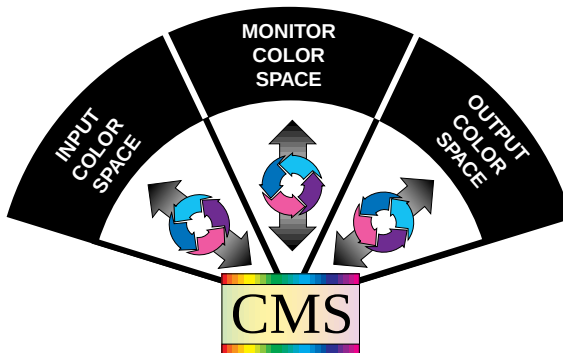
The goal of color management, then, is to help you get accurate, predictable color across all devices by managing, compensating for, and controlling these differences.

The Idea Behind Color Management

Each type of device reads, displays, or interprets color in a unique way. This unique interpretation is called a "device dependent color space." And while there are groups of color spaces, such as RGB or CMYK each device is still unique within its group. For example, monitors display color in RGB, yet each monitor displays a unique version.

The CMS automatically translates between each device dependent color space—so the color data is accurate and understandable.

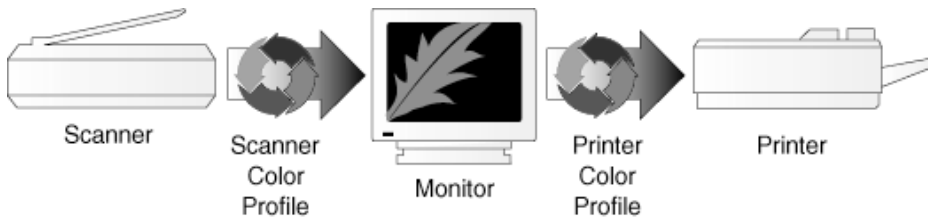
This chart shows the central role of the CMS in managing device dependent color spaces.



How Color Management Works

The aim of color management is to preserve true color information by making up for the differences in the way devices communicate color. Your CMS does this by using a scientifically designed system including:

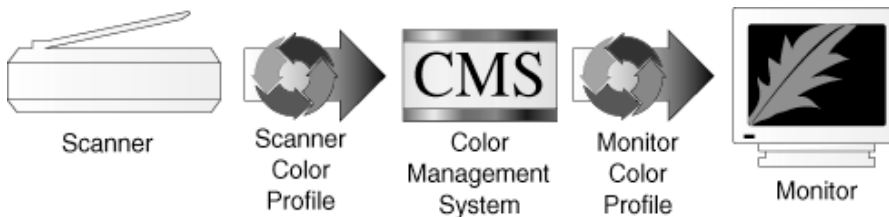
- A Color Matching Processor
- A Device-Independent color space, frequently called a Reference Color Space or Profile Connection Space (PCS), which acts as a Rosette Stone in the translation process
- Device Color Profiles (DCPs)
DCPs relate a device dependent color space to the Profile Connection Space. The CMS uses the Color Profile to translate from one device dependent color space to another.



How CMS Translates between Devices

When you scan an image, a CMS uses the information about the scanner—stored in the Scanner Color Profile—to translate the RGB image from the scanner to the Profile Connection Space. The CMS then uses the information about your monitor—stored in the Monitor Color Profile—to translate the image from the Profile Connection Space to your monitor color space, where you see it displayed.

In this example, the scanner is the “source” device, and the monitor is the “destination” device.



When you print the image, the CMS again translates the image data from the monitor's RGB color space to the printer's CMYK color space—using the information about both devices as stored in their Color Profiles.

So, although all of the devices in this example use different device dependent color spaces, the CMS is able to translate between them and produce accurate, predictable color.



What are Device Color Profiles

Color Management Systems use Device Color Profiles to interpret color data between devices. DCPs are a collection of one or more ICC Profile data files. ICC Profiles contain color characteristics of a given device (input, display, or output).

ICC profiles conform to the International Color Consortium profile specification, allowing the same device profiles to be used across multiple platforms.

Where Do Color Profiles Come From?

Color Profiles are created by either Kodak scientists or other color professionals using specialized software packages, sometimes known as profile building tools.

Kodak scientists use sensitive, specialized equipment to measure the color characteristics of a representative example of each device, as supplied by the manufacturer, to determine the intrinsic properties of the device.

From these measurements they develop a “characterization” of the device, called a Device Color Profile, for each make and model measured.

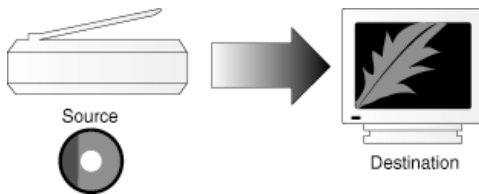
The Color Profile includes color tables that relates the device's color space to a Profile Connection Space, as well as information about key attributes of the device for use by CMS-based applications.

A Word about Source and Destination

People often get confused about what is the “source” of an image and what is its “destination,” so let’s clarify this.

In general, the “source” of an image refers to where the image currently is, and the “destination” is where you want the image to go.

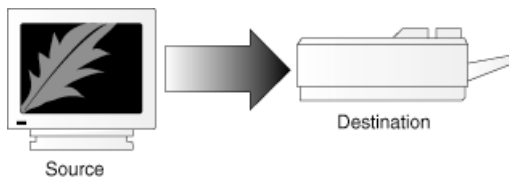
In CMS terms, “source” means the Color Profile used to bring the image data into the Profile Connection Space (PCS). “Destination” means which Color Profile is used to get it from PCS to the destination device. For example, when you scan in an image, you want it to appear on your monitor. So the source is your scanner, and its related Color Profile, and the destination is your monitor, using its Color Profile.



Likewise, when you open a Photo CD image, the source is the Photo CD, plus the Color Profile that relates the color data to the PCS, and the destination is the monitor, plus the Color Profile that relates the PCS to the monitor’s color space.

Here’s another example: Let’s say you manipulate the image on your monitor screen, and print it.

The source this time is the monitor (plus the Color Profile that relates it to the PCS), and the destination is a printer (plus the Color Profile that relates the PCS to the printer’s color space).



So, Source and Destination mirror a logical two-step process most Color Management Systems use to translate images between device color spaces;

- The Source Profile brings the image into the PCS
- The Destination Profile connects the image from the PCS to the output device, such as a Monitor, Printer, or Proofer.

However, this is not the case with a Kodak CMS.

Kodak has patented its composition technology. This technology takes the Source and Destination Profiles and composes them into a single color transforming profile.

This technology adds significant improvement in the quality and performance of the Color Management System.

Note: You use the Source/Destination information when you setup or use your CMS-based application, such as PageMaker 6.5.

Controlling UCR & GCR

Controlling UCR and GCR with Professional CMYK Profiles

In the final stages of color prepress production, the issues change: And your role changes with them. You become that of a professional separator. And it becomes a question of how skilled you are at making good films, films that run correctly on press, avoiding downtime, rework, and expense.

Kodak Digital Science Professional CMYK Profiles helps you with your separations. It expands your selection of undercolor removal (UCR) and gray component replacement (GCR) options, so you can produce correct, quality separations.

Some Background

It is difficult to print four wet layers of ink on top of one another. This is one of the physical constraints of the printing process.

In theory, if you printed a 100% of each CMYK layer, you would have 400% Total Area Coverage (TAC). Real-world experience proves this to be impractical. It is difficult to print jobs that have more than 340% TAC, and most printers feel more comfortable with 280% TAC.

Another area of practical concern is in how process inks are combined. Most printers can not produce a clear, dense black from cyan, magenta, and yellow. Black is needed to produce better details, contrast, and to get a desirable density. Adding black to CMY reduces ink coverage TAC, and thus improves the ability of paper to firmly hold each layer of wet ink, known as ink trapping.

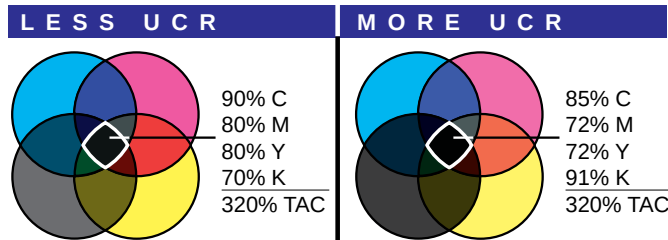
So, from the concerns about ink coverage and ink combinations have come tried-and-true approaches to producing excellent films for excellent separations.

Two aspects of the offset printing process are undercolor removal (UCR) and gray component replacement (GCR).

UCR

Undercolor removal is the practice of removing quantities of yellow, magenta, and cyan ink from the dark neutral areas in a reproduction and replacing what was removed with an appropriate amount of black. Kodak implements UCR in its Color Profiles within a TAC constraint: CMY gets replaced by the maximum amount of K up to the TAC limit—so you get the highest possible density.

The neutral center of both diagrams show different UCR/TAC settings. With UCR applied, less process inks and more black increases the density in the shadows.



Advantages & Disadvantages to UCR

Undercolor removal within a TAC constraint reduces the problem of printing four solid layers of ink, one on top of the other, while each previous layer is still wet. Reducing the ink coverage, TAC, improves the ability of the paper to firmly hold each layer of wet ink.

Less ink means better control, and faster drying times. Also, replacing cmY ink with the less expensive black ink has proven more cost efficient on long runs that use more ink.

Also, blacks and neutrals that print black are not influenced easily by shifts in the chromatic inks which cause color casts in the shadow tones. Separations produced with greater UCR produce darker blacks which result in better shadow detail.

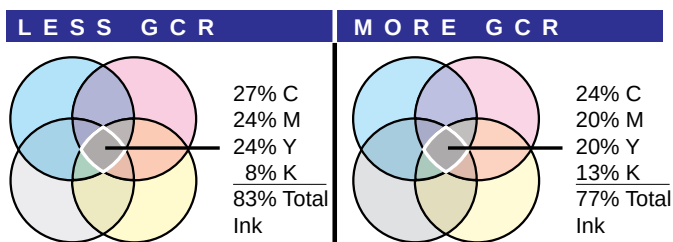
However, some printers don't like high UCR because **of on-press dot gain** and contrasty rosettes.

GCR

Gray component replacement is a variation on undercolor removal. The theory is simple: Whenever amounts of cyan, magenta, and yellow are present in the same color, that color has a gray component. Some or all of this gray component can be printed with black ink while maintaining the original color appearances.

In contrast to UCR, GCR involves a more general color replacement, with black being substituted over all colors.

The neutral center of both diagrams looks the same. With more GCR applied, less color ink and more black ink produces the same color.



Advantages & Problems of GCR

The main advantage of GCR is it reduces the effects of variations on press, so when ink coverage varies, the colors become slightly lighter or darker, rather than changing hue.

Increased amounts of GCR also allows your printing company to use a somewhat higher proportion of black ink, thus reducing cost—which saves you money.

High levels of GCR and/or UCR expand the overall gamut, so darker and more saturated colors are achievable. However, with too light GCR you may not get as saturated a color as with higher levels of GCR.

Professional CMYK Profiles Package

What You Get with Professional CMYK Profiles Package

“Professional CMYK Profiles” was developed for the serious professional, who is concerned about productivity, quality separations, and color fidelity.

With “Professional CMYK Profiles”, you get six different UCR/GCR settings that conform to generic CMYK SWOP, Japanese Ink Standard, and Euroscale standards—Letting you select the best values for your printing conditions.

Any of these combinations give you the control you need to optimize your separations for your proofing and printing applications, reduce your printing costs, and minimize ink trapping problems on press.

However, check with your printer as to the optimal UCR/GCR setting to select for your printing conditions. The following two pages list the settings for the three standards.

EUROPEAN PRINTING STANDARDS:

Filename	Profile Description	GCR	Maximum TAC
eucmyk02.pf	Light GCR 260 UCR CMYK Euro Positive Proofing	Light	260%
eucmyk04.pf	Light GCR 280 UCR CMYK Euro Positive Proofing	Light	280%
eucmyk06.pf	Light GCR 300 UCR CMYK Euro Positive Proofing	Light	300%
eucmyk08.pf	Light GCR 320 UCR CMYK Euro Positive Proofing	Light	320%
eucmyk10.pf	Light GCR 340 UCR CMYK Euro Positive Proofing	Light	340%
eucmyk50.pf	Light GCR 360 UCR CMYK Euro Positive Proofing	Light	360%

U.S. CMYK SWOP PRINTING STANDARDS:

Filename	Profile Description	GCR	Maximum TAC
gncmyk02.pf	Light GCR 260 UCR CMYK US Negative Proofing	Light	260%
gncmyk04.pf US Negative Proofing	Light GCR 280 UCR CMYK	Light	280%
gncmyk08.pf US Negative Proofing	Light GCR 320 UCR CMYK	Light	320%
gncmyk10.pf	Light GCR 340 UCR CMYK US Negative Proofing	Light	340%
gncmyk14.pf	Medium GCR 280 UCR CMYK US Negative Proofing	Medium	280%
gncmyk18.pf	Medium GCR 320 UCR CMYK US Negative Proofing	Medium	320%
gncmyk28.pf	Heavy GCR 320 UCR CMYK US Negative Proofing	Heavy	320%
gncmyk50.pf	Light GCR 360 UCR CMYK US Negative Proofing	Light	360%

JAPANESE PRINTING STANDARDS:

Filename	Profile Description	GCR	Maximum TAC
jpcmyk02.pf	Light GCR 260 UCR CMYK Japan Std. Proofing	Light	260%
jpcmyk04.pf	Light GCR 280 UCR CMYK Japan Std. Proofing	Light	280%
jpcmyk06.pf	Light GCR 300 UCR CMYK Japan Std. Proofing	Light	300%
jpcmyk08.pf	Light GCR 320 UCR CMYK Japan Std. Proofing	Light	320%
jpcmyk10.pf	Light GCR 340 UCR CMYK Japan Std. Proofing	Light	340%
jpcmyk50.pf	Light GCR 360 UCR CMYK Japan Std. Proofing	Light	360%

You read these settings as follows:

- All TAC percentages have the maximum degree of UCR in order to attain the highest density blacks within that TAC limit.
- A Light GCR means a small percentage of the possible gray component is replaced with black.

Check With Your Service Provider

These DCPs were created with the following conditions in mind. You will want to check with your service provider to confirm the laydown order.

Colorant Laydown Order: Yellow, Magenta, Cyan, Black

This DCP assumes that your imagesetter has been linearized. So, it's important that you use some kind of calibration software for your imagesetter.

Appendix C: ScanWizard 5 Assistant

ScanWizard 5 Assistant is a companion utility to ScanWizard 5. ScanWizard Assistant is installed simultaneously with ScanWizard 5, so no special installation for the Assistant is needed, and it appears on your desktop as shown in the figure below. This utility works as a shortcut toolbox, allowing you easy access to ScanWizard 5's frequently used functions -- Scan to File, Copy, and E-mail.



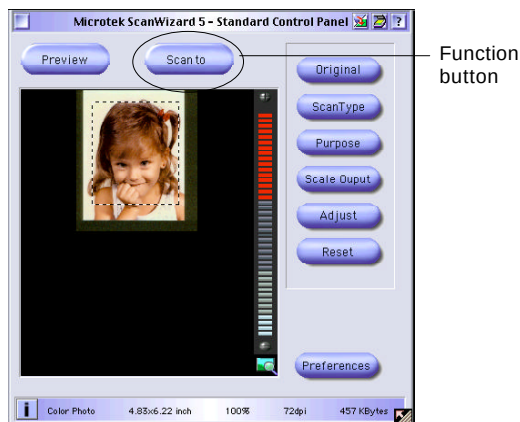
Operating ScanWizard 5 Assistant

Before operating ScanWizard 5 Assistant, check to make sure that --

- Your scanner is connected to your computer.
- The scanner power is turned on.
- Your document has been placed on the scanner glass.

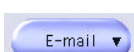
There are three buttons on the ScanWizard 5 Assistant's panel. These are Scan, Copy and E-mail, respectively. Click on any of these buttons, and ScanWizard 5 Assistant will activate ScanWizard 5 and also ask the scanner to perform a preview.

After ScanWizard 5 is launched, the preview image appears in the preview window. The function button in the preview window will vary, depending on the function you choose in the Assistant's panel (Scan, Copy, or E-mail)



Clicking  will show .

Clicking  will show .

Clicking  will show .

Here are the descriptions for each function.

Scan Lets you scan an image and save it to a specified file.

Copy Lets you scan an image and send it directly to the printer.

E-mail Lets you scan an image and append it as an attachment to your E-mail.

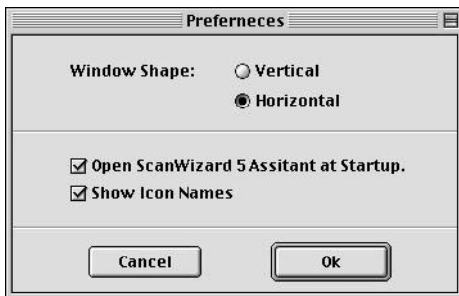
Setting Preferences

The Preferences command allows you to modify the appearance of the toolbox.

To set the preferences, click on the Edit menu from the menu bar, then select Preferences.

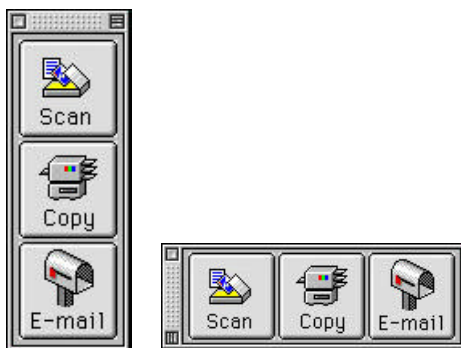


The Preferences dialog box appears, as shown below.



Window shape

Lets you select the appearance of the ScanWizard 5 Assistant Toolbox. The Toolbox is vertical by default.



Open ScanWizard 5 Assistant at Start-up

If you check this option, the ScanWizard 5 Assistant toolbox appears on the screen each time you start your computer. If you uncheck this option, the ScanWizard 5 Assistant Toolbox will not display unless you select it from the ScanWizard 5 Assistant Preferences command in the Edit menu.

Show Icon Name

If you uncheck this option, the icon name is hidden, as shown below. The icon name is shown by default.



Show Balloon Help

If you check this option, the Balloon Help appears when you move the cursor over any of the 3 buttons for at least 5 seconds, showing you the function of the selected button.

The Show/hide balloon help option is selected from the menu bar.

Troubleshooting

Problem: ScanWizard 5 Assistant cannot find, or is unable to launch, ScanWizard 5 successfully.

Solution : Reinstall ScanWizard 5.

Problem: Not enough memory to launch ScanWizard 5 in ScanWizard 5 Assistant.

Solution : Close applications not being used to free up memory.

Appendix D: Glossary

Cross-referenced entries are indicated in **bold type**.

Advanced Image Correction

An integral feature of ScanWizard 5 which includes powerful tools for adjusting or enhancing your images. These tools include Tone Curve, Brightness & Contrast, Color Correction, Filters, and Descreen.

Batch scan

A feature of ScanWizard 5 which lets you set up "batches" of jobs beforehand and then allows you to start the scanning process when you are ready to do so with a simple click of a button.

Bit

The smallest unit of memory in the computer. A bit can be either off or on, representing a value of 0 or 1. Greater bit-depth translates to more complexity in image information. A single-bit image, for instance, uses just one bit of data to record each pixel — which is either black or white. An 8-bit grayscale image contains 256 possible shades of gray, a 24-bit color image can provide up to 16.7 million possible color combinations, while a 36-bit color image has up to 68.7 billion colors.

Blur

The Blur filters eliminate noise in parts of the image where significant color transitions occur. The Blur filters include Blur and Blur More.

Brightness

The balance of light and dark shades in an image. Brightness is distinct from **contrast**, which measures the range between the darkest and lightest shades in an image. Brightness determines the intensity of shades; contrast determines the number of shades you get.

Color channel

Refers to the red, green, and blue components from which colors are created.

Color correction

An Advanced Image Correction tool that lets you change the hue and saturation of an image.

Color image

An image type that contains the most complex information (compared to single-bit and grayscale images). To capture color images, scanners use a process based on the **RGB** color model.

Color matching

An important feature of ScanWizard 5 that ensures color is displayed consistently — from the initial input stage when an image is captured by the scanner, to the final output stage when the image is output to your monitor or printer.

Colormeter

An element of the Information Window with input and output components showing pixel values of an image at a specific x/y location.

Context

The context as a concept in ScanWizard 5 refers to a complete scan setup or environment, with each context having its own characteristics (such as scan material, ColorSync profile selections, etc.). Contexts allow you to customize your scan jobs to your particular needs and work environment.

Contrast

The relationship between the light and dark areas of an image. Contrast is the range between the darkest and lightest shades in an image, while **brightness** is the balance of light and dark shades. Contrast determines the number of shades you get; brightness determines the intensity of the shades. An image with low contrast tends to look dull and flat.

Descreen

An Advanced Image Correction tool that lets you remove moiré patterns during the scanning process.

Dpi

Stands for dots per inch, the measure of **resolution**. The greater the dpi number, the higher the resolution.

Edge Enhancement

The Edge Enhancement filter gives greater contrast to edges and is best used for improving geometrical contoured shapes.

Emboss

The Emboss filter makes a selection appear raised or stamped by suppressing the color within the selection and then tracing its edges with black.

Filters

Tools that allow you to apply or create special effects to your images. Filters in ScanWizard 5 include Blur, Blur More, Sharpen, Sharpen More, Edge Enhancement, Emboss, Unsharp Masking, and Gaussian Blur.

Grayscale

An image type that contains more than just black and white, and includes actual shades of gray. In a grayscale image, each **pixel** has more bits of information encoded in it, allowing more shades to be recorded and shown. 4 **bits** are needed to reproduce up to 16 levels of gray, and 8 bits can reproduce a photo-realistic 256 shades of gray.

Halftone

A type of **single-bit image** composed of a pattern of black dots that fool the eye into seeing shades of gray. Examples of halftone images are the pictures you see in a newspaper. These images usually look very coarse.

Highlights

The lightest portions of an image.

Histogram

A graphic representation of how brightness and darkness pixels are distributed in an image. A histogram skewed heavily to the left indicates a dark image, while a histogram skewed to the right indicates a light image.

Hue

The aspect of color that distinguishes it from another color (what makes a color red or green or blue). Hue is distinct from **saturation**, which measures the intensity of the hue (more red, more green).

Image-editing software

Software that is used to edit images, such as Adobe Photoshop.

Image Type

The way you wish an image to be scanned and processed. ScanWizard 5 allows direct scanning of images into the following image types: RGB color, CMYK color, Lab color, Web/Internet colors, 256 colors, Grayscale, and Line art.

Interpolated resolution

Resolution enhanced through software; thus also known as software-enhanced resolution. For instance, if your **optical resolution** is 300 **dpi**, you may be able to enhance images up to 600 dpi through software interpolation. Interpolated resolution may capture less detail than the optical, but it is useful for certain tasks, such as scanning **line art** or enlarging small originals.

Line art

A type of **single-bit image** that is just purely black and white, such as a pencil or ink sketch. Line art may also include one-color images, such as mechanical blueprints or drawings.

Lpi (lines per inch)

The resolution of printed images. Lpi is distinct from **dpi**, which measures the resolution of electronic images.

Midtones

The parts of an image between the lighter and darker areas, at around 50% gray.

Moiré

An undesirable pattern in color printing that results from incorrect screen angles of overprinting **halftones**. Moirés usually result when you scan a halftone or when you scan images taken directly from a magazine (instead of scanning a photographic original or a transparency).

Optical resolution

The true resolution of a scanner and is the key factor in determining the amount of detail visible in an image. Optical resolution is one type of resolution; the other is **interpolated resolution**.

Overview button

The Overview button is found in the Preview window and previews the image in the scan bed. By default, the entire scan bed is previewed, but new dimensions can be specified for the Overview through the Overview Setup command in the Preferences menu.

Pixel

A unit used by the computer to describe picture elements and to represent image information in a digital format. An image file, for instance, is simply a representation of hundreds (or thousands) of pixels arranged in a grid.

Prescan button

The Prescan button is found in the Preview window and previews in high resolution the area selected by the scan frame. Options governing the prescan function can be found in the Prescan Setup command in the Preferences menu.

Preview window

This window is the most prominent window of ScanWizard 5 and includes the various commands and tools for controlling the scanner and for showing your preview image.

Resolution

The level of detail in an image, expressed in dots per inch (**dpi**), or lines per inch (**lpi**). The greater the dpi number, the higher the resolution and the resulting file size. There are two types of resolution: **optical resolution**, and **interpolated resolution**.

RGB

The color model in which every color is composed of a varying amount of the three colors of red, green, and blue.

Saturation

The intensity of a color, or the amount of color in a specific **hue**. For instance, the image of a bright red apple will appear to be "more red" if the colors are saturated.

Scaling

The process of creating larger or smaller images in ScanWizard, so that the images don't have to be resized later when they are delivered to the image-editing program. Scaling has an inverse relation to **resolution**: The lower the resolution, the larger the image can be scaled. At the highest resolution, images can only be scaled smaller.

Scan button

The Scan button is found in the Preview window and scans the image in your scanner, delivering the scanned image afterwards to your image-editing software. Images that are scanned are the scan jobs checked in the Scan Job window.

Scan Job window

This is a floating window that shows your scan jobs.

Scan material

The type of material for your image. Scan materials can be generally classified into the following: reflectives, such as photographs or prints; positives, such as slides; and negatives, like the negative film used in cameras.

Settings window

This window contains the commands for outputting your scanned image, and includes the image-enhancement tools of ScanWizard 5.

Shadows

The darkest areas of an image.

Sharpen

The Sharpen filters increase the contrast of adjacent pixels, making images appear sharper and more focused. The Sharpen filters include Sharpen and Sharpen More.

Single-bit image

Single-bit images are the simplest kind of image, using just one **bit** of data to record each pixel. Single-bit images come in two types: **line art**, and **halftone**.

Info Window

Windows created from the use of the Info Window tool and which are used to isolate and identify precise colors in a given image, providing a visible values.

Threshold

A special resistor pack or a block of resistors that tells the computer where the end of the SCSI chain is and ensures the electrical integrity of the bus signals. The dividing line between black and white; the default value is 128. Gray levels equal to or above the Threshold are converted to white; gray levels below the Threshold are converted to black.

Tone Curve

An Advanced Image Correction tool that lets you adjust the tonal range of an image.

Transparent Media Adapter (TMA)

A scanner accessory used for scanning transparencies, slides and filmstrips. The TMA has a unique lighting device that prevents transparent originals from being exposed to too much light and getting washed out as a result.

Zoom

The ability to magnify the view of an image in the preview window.